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ABSTRACT

Project S.I.D. (Strength in Differences) had two major objectives: (1) to test the hypothesis that aspects of teaching media used in vocational education courses can correlate positively with aspects of the characteristics and learning styles of gifted and talented students; and (2) to generate a handbook that suggests supplementary activities that may strengthen such a correlation, or may introduce it where it does not currently exist. All teaching materials (texts, syllabi, tests, work sheets, etc.) used in four selected high school programs in a New Jersey comprehensive vocational technical school were analyzed within the framework of the Structure of Intellect model, and a "strength profile" of relevant factors was developed. This "strength profile" was compared with a similar "strength profile" of gifted/talented students developed from the Guilford model (Structure of Intellect) by the SOI Institute, and by corroboration from other studies of the characteristics and learning styles of gifted/talented youngsters. Areas of strong positive correlation were found, as were areas of strong negative correlation. The handbook that was developed focused on areas of moderate correlation in order to strengthen positive effects of supplementary activities. Although the study was conducted on a small sampling of material, it may be interpreted to show that links do exist between vocational education programs and the learning characteristics of gifted/talented students; and that vocational technical schools can fully challenge the most able students in certain areas. (KC)

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FINAL REPORT

OF

PROJECT S. I. D.
(Strength in Differences)

1980 - 1981

Burlington County College
Pemberton-Browns Mills Road
Pemberton, New Jersey 08068

CE030 018

Project Director:

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LEGAL NAME OF APPLICANT DISTRICT, INSTITUTION OR AGENCY: Burlington County College

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ABSTRACT

DESCRIPTION OF PROJECT

(Use this sheet and no more than one other to type in single-spaced form a statement of project objectives, procedures that were followed, state and local priorities emphasized and the expected contribution of the project to vocational education.)

(Note: Project S.I.D. - Strength in Differences - was proposed as a set of two one-year phases, the first concerned with media, the second with methodology. As of this date, the second year has not been funded; therefore, this abstract as well as the final report text will address only the first year's work. The entire scope of the proposed project may be found in the proposal submitted May 16, 1980.)

Project S.I.D. - Strength in Differences - had two major objectives:

1. To test the hypothesis that aspects of teaching media used in vocational education courses can correlate positively with aspects of the characteristics and learning styles of gifted and talented students; and

2. To generate a handbook that suggests supplementary activities that may strengthen such a correlation, or may introduce it where it does not currently exist.

(cont'd.)

All teaching materials (texts, syllabi, tests, work sheets, etc.) used in four selected programs in a comprehensive vocational technical school were analyzed within the framework of the Structure of Intellect model and a "strength profile" of relevant factors developed.

This "strength profile" was compared with a similar "strength profile" of gifted/talented students developed from the Guilford model (Structure of Intellect) by the SOI Institute, and by corroboration from other studies of the characteristics and learning styles of gifted/talented youngsters.

Areas of strong positive correlation were found, as were areas of strong negative correlation. The handbook focused on areas of moderate correlation in order to strengthen positive effects of supplementary activities.

Although the study described in this report was conducted on a modest scale with a small sampling of material, it can be seen to add a piece of empirical evidence to the debate that swirls around the suitability of vocational education for a "thorough and efficient" education of gifted/talented students. This small piece of research may be interpreted to show that links do exist between vocational education programs and the learning characteristics of gifted/talented students; that vocational technical schools can fully challenge the most able student in certain areas. The handbook that has been generated should, if replicated, immediately serve the needs of local schools within the state system so as to perceptibly strengthen the challenge of vocational education in an age of burgeoning technology.

ACKNOWLEDGEMENTS

The researchers for the S.I.D. - Strength in Differences project gratefully acknowledge the cooperation of Dr. William Adams, Superintendent of Salem County (N.J.) Vocational Technical Schools and Mr. Joseph McCloskey, Principal, Salem County Vocational School (Woodstown) for their interest and cooperation, as well as for the loan of student materials, which formed the sample for the S.I.D. investigations.

Mr. Martin Mooney, Project Director, has been unflagging in his interest, and his staff at Burlington County College constant in their support.

Dr. Henry Tornell , Director of Research and Planning in the Division of Vocational Education and Career Planning, deserves a special mention for his guidance of the project and his enthusiasm for the use of research in furthering the reaches and achievements of vocational education.

Mary Wolfe, M.A.

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June, 1981

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A. INTRODUCTION

1. Problem

Although 23% of high school students are in vocational education curriculums, "tracks", or programs, many perceive vocational education as geared to narrowly trained, semi-skilled, low-paying jobs that are relatively immobilized on the career ladder.

Vocational educators know differently; they know that vocational education comprises many technologies, many hierarchies of technology, some whose future development can only be surmised today. The aging of the population, the increased use of computers, the "cross-fertilization" of disciplines, are a few of many factors that require vocational education of a most challenging sort (Adams & Mecca, 1980). Such new careers will be characterized by interdisciplinary cooperation, complex information networks and bases, highly sophisticated decision-making, laid on bases of personal values and cognitive skills.

Who are the students capable of planning for and succeeding in such occupational choices? Are they currently enrolled in vocational education programs? Which ones? Are courses currently available to challenge such students?

How is it determined that a particular course of study will indeed recruit superior students? Is a student "thoroughly and efficiently" educated who wishes to enroll in vocational or technical courses, yet finds these courses far short of meeting his or her individual need for challenge?

The evidential answers to any of these questions are few. The problem appears to be one of devising ways in which linkages of student and study can be identified, categorized and measured, at least in a descriptive manner.

Research evidence -- to pursue but one avenue -- that will link characteristics of able learners with learning components and emphasis of vocational courses may help to build an empirical base for changing perceptions -- and realities -- of vocational education.

The problem is to devise an empirical strategy that will measure the characteristics of the student and characteristics of teaching materials in common terms, so as to identify the presence or absence of appropriate challenges to the gifted/talented student.

2. Objectives

a. The study aimed to test the hypothesis that a positive correlation might be found to exist between learning characteristics of gifted/talented* learners and characteristics perceived to be present in vocational educational materials.

b. Based on the results of the correlational study, a handbook was to be developed that would suggest strategies and devices to strengthen correlation (still using current materials). The handbook would encourage differentiation of curriculum for able students and the use of devices such as questioning, independent projects, future implication studies and evaluation skills.

* For definition of this term, see Appendix A.

3. Definition of Terms

Because the terminology of the Structure of Intellect model is lengthy and sometimes complicated, a diagram of the SOI model and a glossary of SOI terms have been included as Appendix B. Any other terms are defined in a footnote.

4. Rationale for the Study - Related Research

a. Choice of SOI Model - Explanation of Model

Several conceptual models are widely used in the analysis of intellectual functioning. They frequently serve as the bases for identification of clusters of components, for factors that characterize certain learners, i.e., the gifted, the talented, the creative, the visual learner, the leader, and the like.

Among the models, that built from J.P. Guilford's "structure of intellect" theory (1956, 1967) is appropriate for this study. Strongly associated (though not originally so intended) with the identification of the intellectually superior student, the theory posits 120 "cells" in a three-dimensional cube. "Through multivariate methods, Dr. Guilford and his associates have developed ... an acculturated model of intellectual aptitudes or intelligence which seems to encompass most of those activities defining testable performances of human intellectual functioning (Meeker, 1969, p.4)."

(A brief description of the model appears on the following page. A diagram appears as Appendix B)

Guilford's Structure of Intellect (SOI) model is actually a structural description of the contents, operations, and products of intellectual functioning, with definitions of these derived from multi-factor analysis. Guilford has identified the components of his three dimensions as:

Contents	Operations (processes)	Processes
Figural	Cognition	Unit
Symbolic	Memory	Classes
Semantic	Evaluation	Relations
Behavioral	Convergent Production	Systems
	Divergent Production	Transformations
		Implications

(The letters underlined in this list are those used in identifying the components in the figure and are conventionally used in working with the model.)

Guilford theorizes that the intellect recieves information in one or more of four modes: figural (objects), symbolic (representative signs), semantic (meaningful words), or behavioral (observational clues). The intellect processes this information in one or more of five operations: cognition (recognition, understanding), memory (storage/retrieval), evaluation (judgment against criteria), convergent production (generation of logical conclusion), and divergent production (generation of varied and unusual conclusions). These operations upon these modes of information result in one or more of six products (most of which occur in hierarchial order): units, classes, relations, systems, transformations and implications. (See Appendix B for glossary of individual "cells" or functional units of SOI.)

Interaction of the three dimensions generates descriptions of 120 separate, functional intellectual activities which tend to form characteristic profiles when applied to particular learners or particular materials.

Guilford's research, a number of other research studies, and in particular, the ongoing work of the SOI Institute (Los Angeles) have extablished the model's reliability, especially in areas of learning characteristics (Meeker, 1969; Williams, 1970). Most important to the study reported here is that formulae have been devised to isolate, identify, and match components by behavioral measurement, both in learners and in tests and teaching materials (Meeker, 1969; Thomas, 1971).

An additional and relevant value of the SOI model is the perception of its use, by many psychologists and educators, as a device to facilitate a diversity of learning and teaching-learning strategies.* According to Wilson (1968) the model can be used --

1. As a reminder of the great richness and diversity of human thinking abilities, most of which are not tapped in conventional schoolwork; and
2. To stimulate new ideas for classroom practice by conscious training in all the important thinking skills, especially those which have been systematically excluded or neglected in the classroom (Thomas, 1971).

The most pervasive aspect of Guilford's model -- some say its greatest usefulness -- is its illumination of the complexity and potential of intellectual function, especially in the dimension of creativity, parallel to intelligence. When applied to typical, traditional academic thinking, the model shows many of the more complex activities to be entirely overlooked, with a corresponding over-emphasis on simple, lower level activities

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* Especially useful to the preparation of the handbook/workbook, an outcome of this study.

based on simple operations on one or two contents, bringing forth simple products. Proponents of the model contend that, with such analysis on hand, a teacher can manipulate learning activities so as to direct them to levels of strength that will match the strength profile of the learner, especially along the creative dimension. Many guides for achieving such objectives exist, e.g., Guilford (1977), Thomas (1973), Parnes et.al. (1977), Meeker (1973), Feldhusen & Treffinger (1977).

As work has progressed in the isolation and identification of components of intellectual activities, research has begun to identify characteristic profiles of different groups of learners, e.g., the perceptually impaired learner, the leader, the spatial/visual learner, the musically talented learner, the gifted learner, the retarded learner, and the like.

The necessity of a differentiated curriculum for students whose characteristics form a significantly superior profile in one, many, or all areas of learning is pointed out by a rapidly growing body of research. Begining with Terman's studies (1925-1959), through Getzel's and Jackson's investigation of creativity and intelligence (1962), recent researchers are substantiating profiles of strengths in gifted/talented learners that are remarkably similar (Gowan, 1970), Gallagher (1978), Khatena (1978), Torrance (1974), Renzulli (1977).

A considerable (though not universal)* consensus holds that gifted/

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*Torrance (1974) cautions, "If we know anything for sure about gifted children, it is that they are different from each other in many respects. Some think better in numbers than in words, and they perceive and understand mathematical relationships more easily than verbal relationships. Still others are unusually skilled in spatial relationships and objects but are quite incompetent in literature. The ways in which gifted children differ are almost infinite since each person is unique. (p.270)"

talented learners will exhibit many or all of these intellectual characteristics in addition to superior physical, social, and emotional strengths (Heinemann, 1977):

Acute powers of observation;

Individualistic and independent patterns of thought and behavior;

Analytic habits of thought;

Unquenchable curiosity about their surroundings, about ideas, and about the world in general;

Ability to absorb quantities of information;

Very good memories and excellent powers of recall;

Intuitive grasp of conceptual complexity;

Capacity for abstract thinking;

Capacity to synthesize possibilities, to foresee consequences correctly;

Strong drives to produce: invent, write, build, perform, create;

Wide variety of interests;

Enjoyment in imagination, fantasy, games;

Ability to process several modes of information. Gifted child particularly excels in working in verbal and symbolic modes, i.e., music, mathematics, verbalization and the like.

High degree of resourcefulness, originality, and flexible approaches to problems;

Long attention span and high degree of concentration on areas of interest (with parallel inattention and irritability for drill and detail);

High degree of wish for and ability in independent learning.

B. BODY OF REPORT

1. Procedures Used

a(1) A search of the studies and experimental research on the Structure of Intellect model was carried out to confirm its appropriateness to the study.

a(2) The work of Dr. Mary Meeker and colleagues at the Structure of Intellect Institute in Los Angeles was the primary support for the development of SOI factor profile, a "strength profile" of gifted learners (Meeker, 1968; et. al., undated).

b(1) Total teaching materials* for each of four programs currently taught in a large vocational technical school were obtained through the cooperation of administrators at Salem County (N.J.) Vocational Technical Career Center. The courses, selected by the administrative staff, represented a cross-section of the diverse curriculum offered at the school, but excluded programs specifically constructed for mentally handicapped students as well as programs open only to advanced or post-secondary students.

b(2) All text material in the four courses (17 in all, plus syllabi and teacher-made tests) were analyzed for SOI factor classification in the following conventions:

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* For complete listing of these materials, see Appendix C.

a. One paragraph (successive) on every third page of text;

b. One illustration, figure, table, diagram, etc., on that page;

c. Every third question in tests, study sections, etc.;

d. Every third supplementary material, e.g., suggestions for further study, etc.

(Appendix E shows detail of SOI cell frequency distribution for each material.)

b(3) A chart of SOI distribution and emphasis was created for each material, showing SOI factors created in any significant numbers, and displaying the location of such factors; whether in the content, organization, student feedback, illustrations, etc. Auxiliary information relevant to certain intellectual activities were also noted, such as presence of bibliography, suggestions for further study, etc. (Appendix D shows detail of charts for each text material.)

b(4) An SOI factor profile, a "strength profile", was developed for each text material, and, in a more generalized manner, for each program.

c. The two profiles were matched to find congruency and positive correlation.

2. Findings

"Strength Profile" of the Gifted Learner

Putting the results of research on learning characteristics of the gifted into the frame of reference of the Structure of Intellect model, a "strength profile" of the gifted learner emerged, expressed in SOI activity factors.

(Gifted learners are characterized by the breadth and depth of their intellectual strengths; it may be assumed, therefore, that over a period of experimentation, all 120 SOI factors might appear in their learning activities. The "strength profile" looks only for those factors frequently and consistently present.)

Translated into SOI terms, a gifted learner's strength profile would display:

Operations:	cognition and memory involved in all activities, but moving rapidly beyond these to evaluation of complex ideas, convergent production of deductive thinking; emphasis upon divergent production.
C, M, E, N, D	
Contents:	all four modes -- figural, symbolic, semantic, behavioral, with greatest emphasis traditionally upon symbolic and semantic.
F, S, M, B	
Products:	heavy emphasis upon systems, transformations, implications (most abstract product); some emphasis on relations; little emphasis on classes or units.
U, C, R, S, T, I	

A total of 64 different factors will emerge when combined (see Table 1).

Obviously, not all 64 SOI factors will appear in an hour's learning activity, and the verbally-oriented (semantic - M) student may not choose to process much symbolic (S) information in his or her school day. Likewise, in most traditional schools, he or she will have little curricular opportunity to process behavioral (B) information, although much complex behavioral processing takes place in the cafeteria, in club meetings, and on the parking lot. Opportunities to process figural (F) information also are usually restricted, except in vocational education where figural information (kinesthetic, tactile experience) is routinely offered.

Table 1 is a graphic presentation of the SOI strength profiles of (a) the gifted learner, and (b) each of the text materials in the sample. An extrapolated profile appears, after each group of text materials, for the whole program. (For explanations of the SOI factors, refer to Appendix B.)

Table 2 charts the congruence between SOI factors in "strength profiles" of a gifted learner and "strength profiles" of each text material and each program.

TABLE 1. A comparison of SOI activity factors(cells) in the "strength profiles" of (a) the gifted learner; (b) each text material in the sample.
A ✓ in the program material column indicates it was found in 20% or more of the material analyzed.

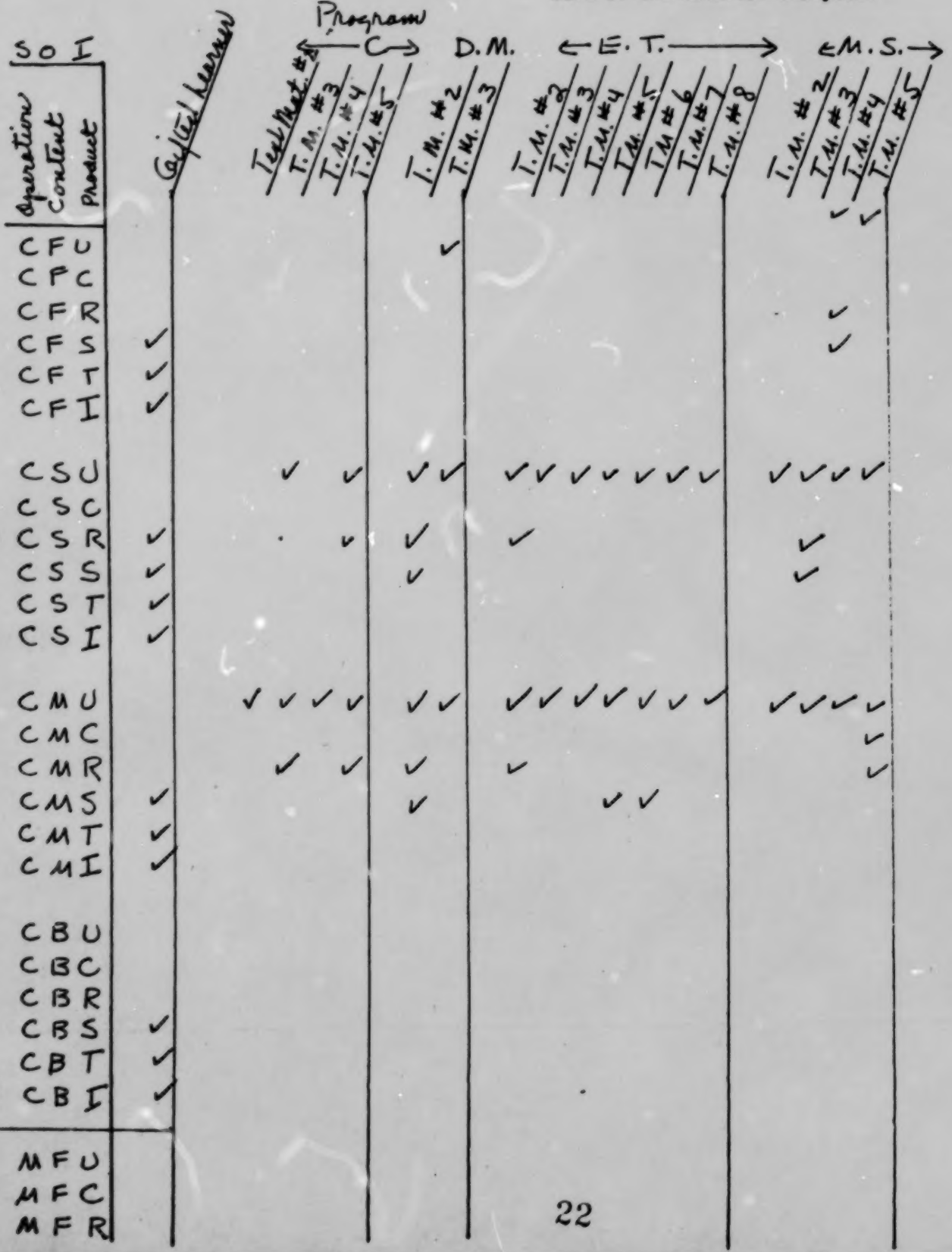


Table 1 (continued)

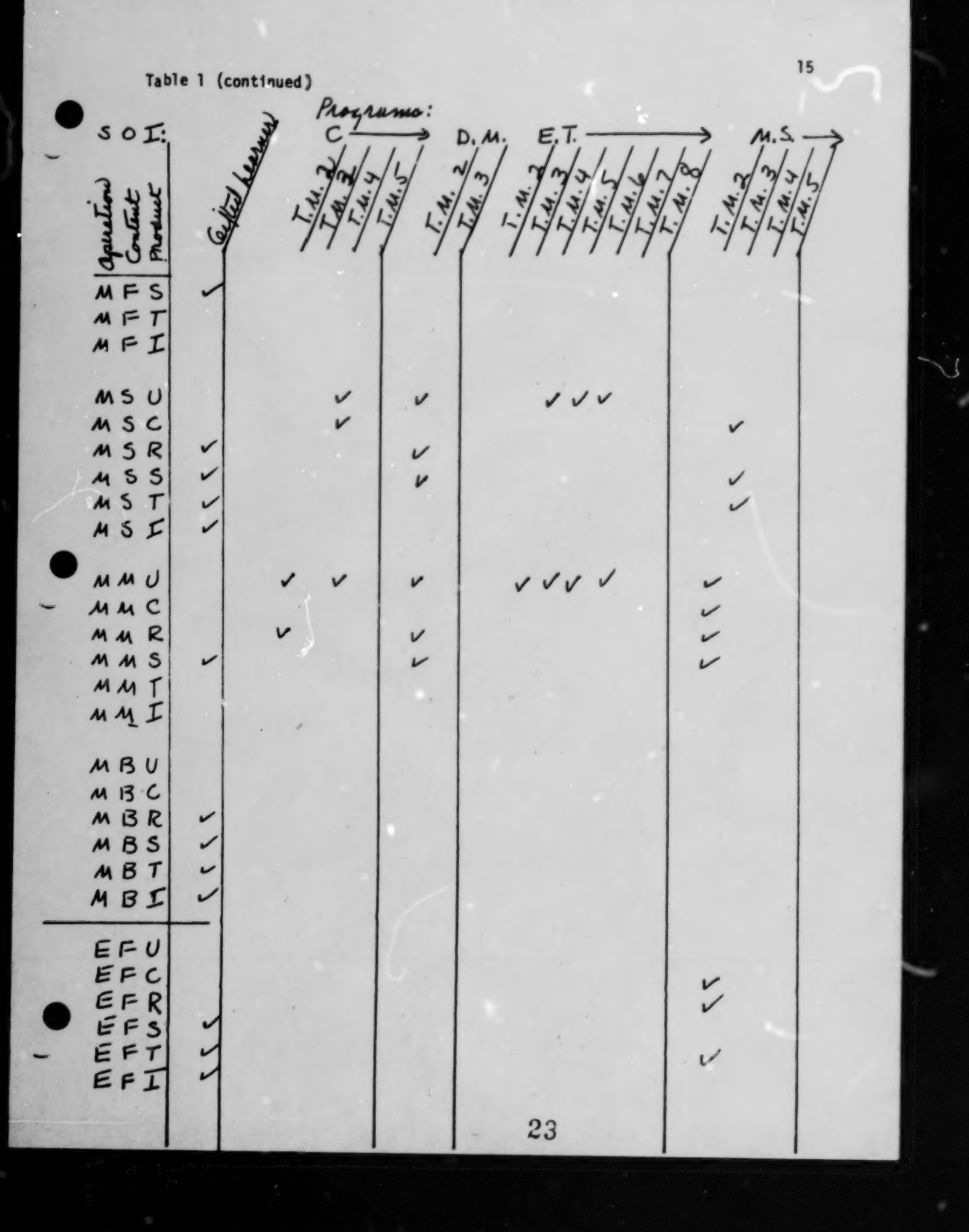


Table 1 (continued)

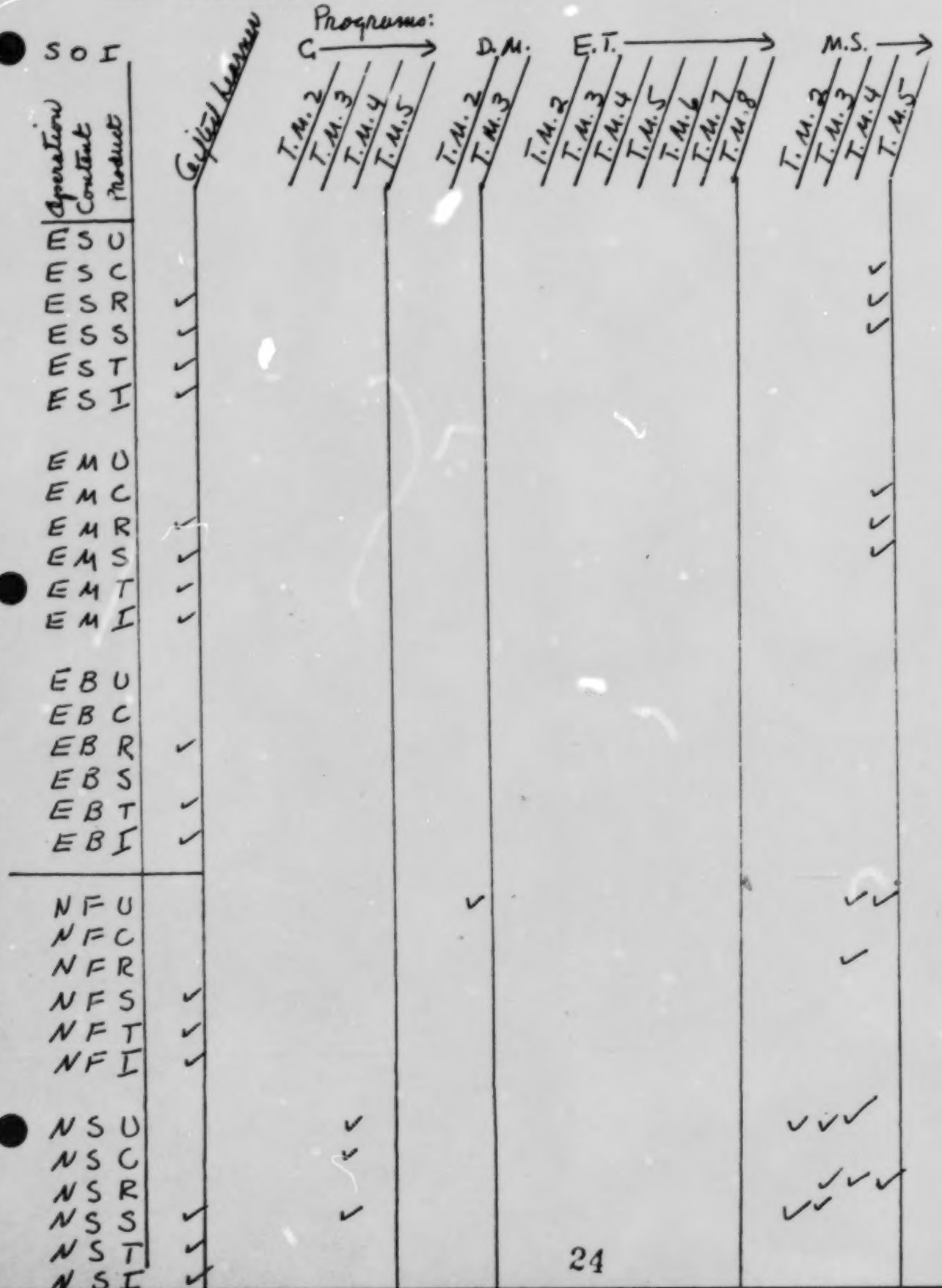


Table 1 (continued)

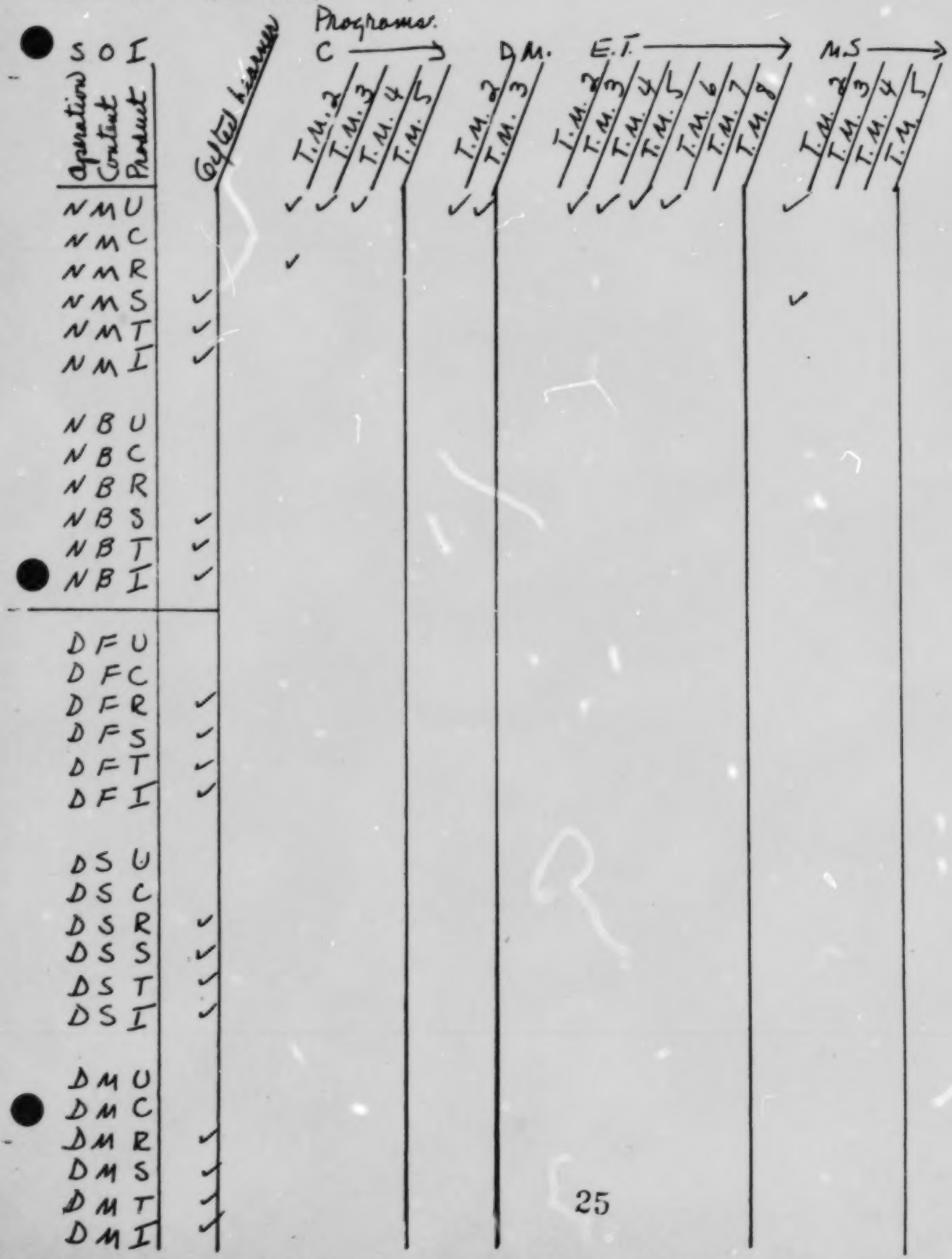


Table 1 (continued)

| | | |

Table 2. Congruence between SOI factor "strength profile" of gifted learner, SOI factor "strength profile" of each text material in sample, and each program as a whole.

	Total SOI Factors	Correlations +	Correlations -	Congruency %
Gifted Learner	64	n/a	n/a	n/a
C.2 (1)	5	0	5	0
C.3	4	0	4	0
C.4	7	1	6	14
C.5	4	0	4	0
Program C.	20 (2)	1	19	5
D.M. 2	13	5	8	38
D.M. 3	5	0	5	0
Program D.M.	18	5	13	27
E.T. 2	4	1	3	25
E.T. 3	4	0	4	0
E.T. 4	5	0	5	0
E.T. 5	5	1	4	20
E.T. 6	5	1	4	20
E.T. 7	2	0	2	0
E.T. 8	2	0	2	0
Program E.T.	27	3	24	11
M.S. 2	14	4	10	28
M.S. 3	10	5	5	50
M.S. 4	9	1	8	11
M.S. 5	13	5	8	38
Program M.S.	46	15	31	32

1. Actual text titles will be found with corresponding numbers in Appendix C.
2. Totals must be considered in the light of the fact that individual text scores contain repetition of the same SOI factor; the totals cannot denote the number of different SOI factors. Therefore, the total actual % would be less than the number shown.

3. Interpretation of Findings

At first glance, the test of the hypothesis that a positive correlation can be found between vocational education text mateirlas and the characteristic of the gifted seems to be proved false. Table 1 and Table 2 display a consistent negative correlation.

These findings, however, must be interpreted in the light of several considerations.

1. Text materials are a smaller factor in the overall teaching-learning interaction in vocational education programs than in academic education programs. In such programs, the master-apprentice factor is as large -- in most cases larger-- than any other element. Demonstration, imitation, replication with actual materials is the pre-eminent teaching-learning interaction, while texts are thought of either as a reference handbook, or a compendium of facts and rules to be memorized before and assimilated during the learning time that the vocational skill demands. A study of the staff-generated Program Profile for each program yields many examples of the diverse activities that are required of students beyond textbook mastery.

   In SOI terms, the apprentice segment of the programs affords many opportunities for processing of figural (object) information, e.g., the state of a head of hair, a burned out fuse box; of symbolic information, e.g., blueprints, doctor's prescription. These programs afford opportunities for

operations of evaluation: "What did I do wrong in this assembly?"; of divergent thinking: "Are there other ways to simplify this filing system?", and the like. So, a holistic evaluation of any of these programs against the SOI model must strive to place the textbook in proper perspective. (The proposed second phase of this project had the SOI evaluation of the teacher-apprentice element in the program as its primary focus.)

2. The text materials analyzed are not all "texts" in the traditional sense of explication, question, summary, question. Such traditional texts, if well constructed and written by a teacher/expert, should provide varied activities involving a range (in SOI terms) of operations, content, products -- no matter what the text subject may be. The "texts" for vocational education may range from reference manuals to reviews for licensing examinations, all of which the student must master, frequently by memory alone. In the materials in the study's sample, for example, the cosmetology program's four materials include two reviews for licensing examinations, which is a material sharply limited from an SOI perspective; the electrical technology program material includes The National Fire Code 1975, a reference of legally enforceable rules and regulations for the trade nationwide. Little room for divergent thinking in the mastery of such a reference!

3. The obvious emphasis, as shown in Table 1, upon cognition, particularly cognition of semantic units (CMU) and symbolic units (CSU), and on memory of semantic units (MMU) and symbolic units (MSU), none of which appear in the profile of the gifted learner, can be misleading.

   The detailed analysis (more than 3800 examples) reveals that in some programs, cognition of semantic and symbolic units is built in a hierarchial fashion toward extremely complicated, often complex ideas and demonstrations, requiring a high degree of verbal and symbolic intelligence. Likewise, the memory operation demanded in some of the programs is a very accurate and lengthy order.

One must here consider the multidimensional nature of intelligence that the Guilford model assumes. Although its place among theoretical models of intelligence is sure, its critics contend (Haynes, 1970) that the SOI does not sufficiently credit the homogenous nature of ideas, especially those based in experience or experiment. They contend it does not accord sufficient importance to highly complex, tightly structured systems of ideas that may be narrowly based. The argument between the values of convergent production (generation of a conventional or logical solution given predetermined facts) and divergent production (generation of a unique or a variety of solutions given predetermined facts) should not turn upon an evaluation of "superior" and "inferior" thinking, but upon the selection of the production appropriate to the problem.

A study of the materials in the sample will yield several examples of highly deductive, highly complex idea structures that cannot admit of much divergent thinking (at least at the level in the study). There are not many different possible ways to evaluate a remote control relay, or to perform a diagnostic operation on a diesel engine, especially under legal and underwriters' constraints; yet the necessary cognition, memory, and convergent production operations require high intelligence, even if narrowly dimensional.

4. Dissemination Activities Planned and/or Implemented

1. The nature of the study recommends that it be submitted to the National Center for Research in Vocational Education (Ohio State University).

2. If the project is funded to completion (through a second year), a research and dissemination seminar/conference is planned to acquaint staff of vocational technical and comprehensive secondary schools with the results and implications of the study.

3. A handbook of teaching suggestions for differentiating curriculum for able students has been developed and is submitted with this report.

5. Strategies or Activities Employed to Eliminate Sex Bias and Sex Role Stereotyping

The first-year phase of this research evaluated only text materials for selected vocational education courses. It evaluated text material only as it affected intellectual content, operations, product. It made no judgment upon the contextual or organizational quality of the text, nor upon omissions or factual errors in the text. The presence of sex bias or sex role stereotyping in the texts was likewise outside the purview of the study; therefore, no mention of strategies or activities to eliminate such appears in this report.

However, the detailed study of each text material in the sample, which was necessitated by the research design, did reveal in at least one program obvious evidence of sex role stereotyping (in commercial materials, not staff-developed materials). In the handbook of suggestions for differentiating the curriculum, an effort has been made to correct such stereotyping.

C. SUMMARY

1. Conclusions

1. In the most literal sense, comparison of Structure of Intellect factor "strength profiles" of text materials (only) of selected vocational education programs with the "strength profile" for a gifted learner, generated from research, shows a strong negative correlation. The "strength profile" for a gifted learner generated more than 60 SOI activity cells (out of a maximum 120) clustered at complex levels of intellectual products, ranging over multidimensional operations and all possible avenues of information.

   The "strength profile" for the text materials (17 materials in 4 programs) generated 33 different SOI activity cells, with some text materials generating less than five. However, as previously noted, two countervailing aspects appear in the study:

   a. The text material component in the vocational education program is not the same as that in the academic education program and must be so evaluated;

   b. Although single or few different SOI activity cells were generated, the amount and growth in complexity of some activities challenge a high level of intelligence, no matter if narrowly defined. Guilford's model assumes a multidimensional characteristic to intelligence.

   These results must be evaluated in that light.

2. Considered in these lights, some conclusions may be advanced for each program, and for the materials as a whole.

The Cosmetology program is seen not to be challenging to high intelligence of the verbal or symbolic mode. There is significant opportunity for some originality and divergent production in processing figural and behavioral information, i.e., actual shop work, but the actual texts do not challenge this area in any way.

The Diesel Mechanics program is seen to be highly challenging to a narrow range of intellectual activities, e.g., the cognition of many and complicated facts and relationships. Mastery of these texts requires strength in cognition, memory, and convergent production, operations that use a multitude of symbolic and semantic information. At the text level, there is little challenge to other dimensions of intelligence, particularly to the creative dimensions, but the challenge within the dimensions noted should not be underestimated.

The Electrical Technology program is seen through its texts to be greatly similar in strength profile to the Diesel Mechanic program, stiffly challenging a few major dimensions, with little or no challenge to others.

The Medical Secretary program texts require a greater breadth of intellectual activities than do the others, but do not consistently approach a high level of intellectual challenge,

i.e., complex thinking skills, detailed and aggregate memory, etc. In "hands-on" practice, considerable challenge could be generated in areas of behavioral information, as well as evaluation of a variety of figural information, but the text materials do not explore this.

In summary, the study leads to the conclusion that characteristics of the text materials (only a part of the program) in selected vocational education programs correlate with the learning characteristics of the gifted learner along a very narrow band of intellectual functions; that this correlation can be strong in some program instances, offering a distinct challenge to certain dimensions of intelligence; and that other dimensions of intelligence, notably creative dimensions, are not correlated with these program elements at this level.

2. Recommendations

1. The programs that present "strength profiles" congruent with that of the gifted learner should be publicized so as to recruit that learner; however, the narrow dimension of the challenge must be taken into consideration, ideally by an analysis of intellectual functioning such as the SOI model affords. At this level, such programs shallenge persons strong in cognition, memory, logic operations on figural, symbolic and, to some extent, semantic information. They do not challenge -- nor offer success to -- the divergent, original, verbal person whose strength is in transformation of words and symbols. Such students should not be recruited for these programs.

2. Areas of programs that do not now challenge high intellectual levels at all should be reviewed for ways in which they can be strengthened: greater challenge in creativity, i.e., divergent production of implications -- "what if?"; in processing of behavioral or symbolic information -- handling an irate salon customer, or creating a new medical filing system. The handbook that accompanies this report can help here.

3. Further research should be pursued along two avenues:
   a. the proposed companion study, which will apply the same criteria to the crucial teaching-learning interactions in the same programs, should be completed. The two phases of the study together will yield a

multidimensional analysis of the many facets of intelligence that high quality vocational education programs should challenge.

b. Studies beyond this beginning should be undertaken to corroborate its conclusions:

-- that intelligence is multidimensional;

-- that traditional criteria (tests, licensing, etc.) measure only small areas of intellectual functioning;

-- that vocational education can be highly challenging to certain kinds of intelligence;

-- that by careful analysis of program, the quality of all vocational offerings can be improved.

This era of technological complexity demands nothing less; vocational education is today presented with its greatest challenge.

D. APPENDIXES

Appendix A (1)

Advisory Panel to the Commissioner of Education re P.L. 91-230

Public Law 91-230 Section 805 states that the Commissioner of Education shall define "gifted and talented" for purposes of federal education programs.

The definition established by the advisory panel reads:

> "Gifted and talented children are those, identified by professionally qualified persons, who by virtue of outstanding abilities are capable of high performance. These are children who require differentiated educational programs and/or services beyond those normally provided by the regular school program in order to realize their contribution of self and society.
>
> "Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas, singly or in combination:
>
> 1. general intellectual ability,
> 2. specific academic aptitude,
> 3. creative or productive thinking,
> 4. leadership ability,
> 5. visual and performing arts,
> 6. psychomotor ability.
>
> "It can be assumed that utilization of these criteria for identification of the gifted and talented will encompass a minimum of 3 to 5 per cent of the school population.
>
> "Evidence of gifted and talented abilities may be determined by a multiplicity of ways. These procedures should include objective measures and professional evaluation measures which are essential components of identification.
>
> "Professionally qualified persons include such individuals as teachers, administrators, school psychologists, counselors, curriculum specialists, artists, musicians, and others with special training who are also qualified to appraise pupils' special competencies."

Report of the Advisory Panel, 1969

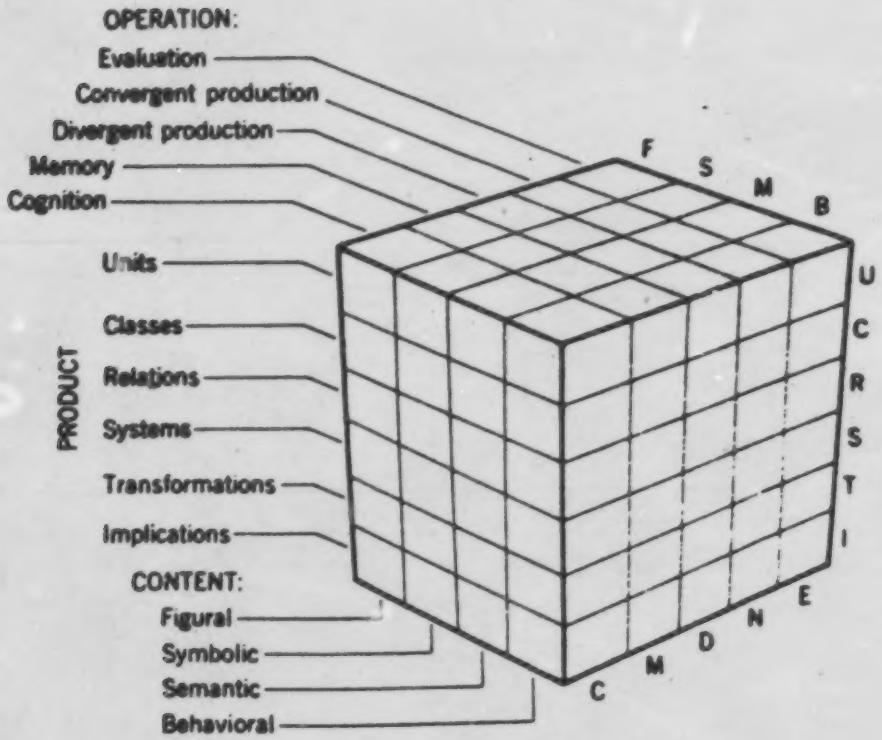
Appendix A (2)

Section 902, Part A, Title IX, P.L. 95-561

"Title IX, Part A may be cited as the 'Gifted and Talented Children's Education Act of 1978.'"

> "For the purposes of this part, the term 'gifted and talented' children means children and, whenever applicable, youth, who are identified at the preschool, elementary, or secondary level as possessing demonstrated or potential abilities, that give evidence of high performance capability in areas such as intellectual, creative, specific academic, or leadership ability, or in the performing and visual arts, and who by reason thereof, require services or activities not ordinarily provided by the school."
>
> (92 STAT. 2293)

APPENDIX B: Structure of Intellect Model



*from Guilford's model; Thomas(1972) p.2.

Appendix B

Glossary: Structure of Intellect Model Terms

Contents: Broad classes or types of information discriminable by the organism.

Figural: Information cognized as visual, aural, or kinesthetic forms or totalities, e.g., objects, sounds, etc.

Symbolic: Information that is cognized in the form of a numeral, single letter, note of music, code symbol, etc.

Semantic: Information, i.e., words and ideas whose abstract meaning is so associated with its external referent that the referent calls up the internally stored word.

Behavioral: Information that is gained from observational cues.

Products: The results of the operations on the contents; categories or organization of material processed.

Units: Production of one symbol, one figure, one word, one idea, one fact, etc.

Classes: Production of one or more classifications, usually of units or systems.

Relations: Production of connections between the content or among the contents involved.

Systems: Production of structural entities, e.g., comprehension of languages, behavioral sequences, logical inference bases, etc.

Transformations: Production of a redefinition or modification of existing information into other information. Associated with creativity as it relates to visual, auditory, abstract, or spatial flexibility.

Implications: Production of prediction; the ability to foresee consequences; to generalize, to hypothesize, to imagine unseen consequences visually, etc.

Operations: Major kinds of intellectual activities. By operating on the content(s) presented, the organism produces various products.

Cognition: Immediate discovery, awareness, rediscovery, or recognition of information in various forms; comprehension or understanding.

Memory: Retention or storage, with some degree of availability, of information in the same form it was stored and in response to the same cues in connection with which it was learned.

Evaluation: Arrival at decision or judgments concerning criterion satisfaction, e.g., correctness, suitability, adequacy, desirability, etc., of information.

Convergent Production: Generation of information from given information, where the emphasis is upon achieving unique or conventionally best outcomes. It is likely that the given information may fully determine the outcome.

Divergent Production: Generation of information from given information, where the emphasis is upon variety and quality of output from the same source. Present with other clues indicating creative potential.

SOI CELLS DEFINED OPERATIONALLY

(Note: When Structure of Intellect terminology is used, it is customary to work with the initials only of each content, product, or operation. Customarily, the operation is given first, then the content, then the product. Examples of this usage, with definition of each SOI factor listed, are given below. All 120 cells of the Structure of Intellect model can be so identified; the ones given here are those for which some extensive educational research evidence can be found.)

COGNITION

Cognition of Figural Units - Ability to recognize a figural entity, to "cloze" figural information or perceive a complete visual form; ability to perceive auditory figural units by organizing groups of successive inputs.

Cognition of Figural Classes - Ability to recognize groups of figural items.

Cognition of Figural Relations - Ability to recognize figural connections between forms.

Cognition of Figural Systems - Ability to comprehend arrangement and position of visual objects in space, or aural objects in time.

Cognition of Figural Transformations - Ability to visualize how a given figure, object, or sound will appear or sound after given changes, e.g., unfolding, change of key, rotation, etc.

Cognitions of Figural Implications - Ability to foresee consequences in figural problems, how any object may change under certain conditions.

Cognition of Symbolic Units - Ability to visually recognize graphic symbolic units; ability to decode auditory information.

Cognition of Symbolic Classes - Ability to recognize common properties and to arrange symbolic information in sets.

Cognition of Symbolic Relations - Ability to see connections between items of symbolic information.

Cognition of Symbolic Systems - Ability to understand the systematic interrelatedness of symbols within an organized set.

Cognition of Symbolic Transformations - Ability to reinterpret symbols in light of new information.

Cognition of Symbolic Implications - Ability to foresee or to be sensitive to consequences in a symbolic problem.

Cognition of Semantic Units - Ability to comprehend the meanings of single words or ideas.

Cognition of Semantic Classes - Ability to recognize common properties of words or ideas.

Cognition of Semantic Relations - Ability to see relations between ideas or meanings of words.

Cognition of Semantic Systems - Ability to comprehend relatively complex ideas.

Cognition of Semantic Transformations - Ability to see potential changes in interpretations of words, ideas.

Cognition of Semantic Implications - Ability to anticipate or to be sensitive to the needs of or the consequences of a given situation in meaningful terms.

Cognition of Behavioral Units - Ability to understand units of expressions, such as facial or body expression.

Cognition of Behavioral Classes - Ability to see similarity of behavioral information in different expressional modes.

Cognition of Behavioral Relations - Ability to understand interpersonal and social relationships.

Cognition of Behavioral Systems - Ability to comprehend a complex social situation or sequence of social events.

Cognition of Behavioral Transformations - Ability to reinterpret, in the light of new information, such clues as a gesture, expression, a social statement or situation.

Cognition of Behavioral Implications - Ability to draw implications or make predictions, given bodily or social clues or sets of clues.

MEMORY

Memory for Figural Units - Ability to remember given figural objects, shapes, smells, etc.

Memory for Figural Systems - Ability to remember the spatial order or placement of given visual information; to remember auditory complexities, i.e., rhythm, melody; to remember nuances of taste and smell.

Memory for Symbolic Units - Ability to remember isolated items of symbolic information, such as syllables or strings of numbers.

Memory for Symbolic Systems - Ability to remember the order of symbolic information, and its structural connections.

Memory for Symbolic Classes - Ability to remember the properties of symbolic classes, such as number tables, orthographic symbols, etc.

Memory for Symbolic Relations - Ability to remember definitive connections between units or symbolic information.

Memory for Symbolic Implications - Ability to forecast connections between symbols in light of new information.

Memory for Semantic Units - Ability to remember isolated ideas or vocabulary meanings.

Memory for Semantic Classes - Ability to remember the properties of verbal or ideational sets.

Memory for Semantic Relations - Ability to remember meaningful connections between items of verbal or ideational information.

Memory for Semantic Systems - Ability to remember verbal information in a meaningful order and with recognition of structural organization.

Memory for Semantic Transformations - Ability to remember changes in meanings or redefinitions.

Memory for Semantic Implications - Ability to remember connections between pairs of meaning, elements of information.

EVALUATION

Evaluation of Figural Units - Ability to judge units of figural information as being similar or different.

Evaluation of Symbolic Units - Ability to make competent decisions regarding identification of letter or number.

Evaluation of Symbolic Classes - Ability to judge applicability of class properties of such symbolic information as letters, numbers, signs, etc.

Evaluation of Symbolic Relations - Ability to make choices among symbols as they relate to each other.

Evaluation of Symbolic Systems - Ability to estimate appropriateness of aspects of a coordinated system.

Evaluation of Symbolic Transformations - Ability to judge whether or not an ordering of substitutive symbols is adequate.

Evaluation of Symbolic Implications - Ability to judge whether there is, or can be, probability or inferences from given symbolic information.

Evaluation of Semantic Units - Ability to make judgements about the suitability or adequacy of ideas and word meanings in terms of given criteria.

Evaluation of Semantic Classes - Ability to judge applicability of class properties of semantic information.

Evaluation of Semantic Relations - Ability to make choices among semantic relationships based on the similarity and consistency of the meanings.

Evaluation of Semantic Systems - Ability to judge the internal consistency of complex meaningful information.

Evaluation of Semantic Transformations - Ability to judge which objects or ideas could best be redefined in order to meet new informational requirements.

Evaluation of Semantic Implications - Ability to judge adequacy of a meaningful deduction.

CONVERGENT PRODUCTION (N)

Convergent Production of Figural Classes - Ability to classify, uniquely or conventionally, items of figural information.

Convergent Production of Figural Transformations - Ability to break down given figural units in order to form new ones.

Convergent Production of Symbolic Classes - Ability to classify uniquely or conventionally symbolic items in groups.

Convergent Production of Symbolic Relations - Ability to complete a specified degree of relationship among given information.

Convergent Production of Symbolic Systems - Ability to produce a fully determined order or sequence of symbols.

Convergent Production of Symbolic Transformations - Ability to produce new symbolic information by revising given items in a conventional or logical manner.

Convergent Production of Symbolic Implications - Ability to produce a completely determined symbolic deduction from given information, when the implication has not yet previously been known.

Convergent Production of Semantic Units - Ability to produce an appropriate or "correct" name for any given information.

Convergent Production of Semantic Classes - Ability to produce verbally meaningful groupings correctly under specific conditions and restrictions.

Convergent Production of Semantic Relations - Ability to produce words or ideas that conform to specific or logical requirements.

Convergent Production of Semantic Systems - Ability to order information conventionally or logically into a verbally meaningful sequence.

Convergent Production of Semantic Transformations - Ability to produce new uses for information by redefining it conventionally or logically.

Convergent Production of Semantic Implications - Ability to deduce meaningful information implicit in the given information.

DIVERGENT PRODUCTION

Divergent Production of Figural Units - Ability to produce various figures conforming to simple specifications.

Divergent Production of Figural Classes - Ability to group figural information in various and unusual ways.

Divergent Production of Figural Relations - Ability to generate relations between figural items, which are organized constructively but are arrived at uniquely or in infrequent ways.

Divergent Production of Figural Systems - Ability to produce composites of figural information in many and unusual ways.

Divergent Production of Figural Transformations - Ability to revise figural information in an unusual or infrequently found manner.

Divergent Production of Figural Implications - Ability to elaborate on figural information.

Divergent Production of Symbolic Units - Ability to reproduce many units that conform to simple specifications.

Divergent Production of Symbolic Classes - Ability to group symbolic information in various and unusual ways.

Divergent Production of Symbolic Relations - Ability to generate various relations between symbolic information, e.g., letters, numbers, signs, that yield diverse and infrequent examples.

Divergent Production of Symbolic Systems - Ability to organize sets of symbolic information into different systematic arrangements not often encountered.

Divergent Production of Symbolic Implications - Ability to produce various consequences, foreseen, forecasted, or hypothesized from given symbolic information.

Divergent Production of Semantic Units - Ability to produce many elementary ideas appropriate to given requirements.

Divergent Production of Semantic Classes - Ability to produce many and various categories of ideas appropriate in meaning to a given idea.

Divergent Production of Semantic Systems - Ability to organize words in various, diverse, meaningful, complex ideas.

Divergent Production of Semantic Relations - Ability to produce many connections appropriate in meaning to a given idea; to generate possible connections not frequently encountered.

Divergent Production of Semantic Transformations - Ability to produce unusual or clever responses involving reinterpretations or re-emphasising of given information.

Divergent Production of Semantic Implications - Ability to produce many antecedents, concurrents, or consequents for given information.

Appendix C

Bibliography of Materials in Sample

Cosmetology Program

1. Salem County Vocational Technical Schools Careers Center. Program profile: Cosmetology 1980-1981. Unpublished.

2. Exam reviews in hair structure and chemistry. (Expanded) (4th ed.) New York:Milady Publishing, 1977.

3. Kibbe, C.V. Standard textbook of cosmetology. New York:Milady Publishing, 1977.

4. Milady Staff. Cosmetologists state board exam. New York:Milady Publishing, 1975.

5. Powitt, A.H. Hair structure and chemistry simplified. New York: Milady Publishing, 1972.

Diesel Mechanics

1. Salem County Vocational Technical Schools Career Center. Program profile: Diesel mechanics 1980-1981. Unpublished.

2. Kates, E.J. (Rev. by Luck, W.E.) Diesel and high compression gas engines. (3rd ed.) Chicago:American Technical Society, 1974.

3. Staff-generated materials on units: Orientation, shop safety, basic shop tools, test equipment and service tools, engine lubricants, cooling systems, coolants, seals, fasteners, cylinder head assembly, lubrication systems, and diesel fuels. Mimeo, Undated.

Electrical Technology

1. Salem County Vocational Technical Schools Career Center. Program profile: Electrical technology 1980-1981. Unpublished.

2. Alerich, W. N. Electrical construction wiring. Chicago:American Technical Society, 1971.

3. Alerich, W. N. Electricity 3: Motors, generators, controls. Albany: Delmar Publishers, 1974.

4. Alerich, W. N. Electricity 4: Motors, generators, controls. Albany: Delmar Publishers, 1975.

5. Kubala, T. Electricity 1: Devices, circuits, materials. Albany: Delmar Publishers, 1974.

6. Kubala, T. Electricity 2: Devices, circuits, materials. Albany: Delmar Publishers, 1974.

7. Loper, O. E. Direct current fundamentals. Albany:Delmar Publishers, 1978.

8. National Fire Protection Association. National electrical code 1975. Boston:National Fire Protection Assn., 1974.

Medical Secretary

1. Salem County Vocational Technical Schools Career Center. Program profile: Medical secretary 1980-1981. Unpublished.

2. Bredow, M. Medical office procedures. New York:McGraw-Hill, 1973.

3. Gregg, J.R., Leslie, L.A. & Zoubek, C.E. Gregg shorthand (2nd ed.) New York:McGraw-Hill, 1971.

4. Lessenberry, D.D. & others. Century typewriting. Cincinnati:South-Western Publishing Co., 1977.

5. Stewart, J.R. & Kahn, G. Gregg quick filing practice. (2nd ed.) New York:McGraw Hill, 1979.

APPENDIX D

MATRIX ANALYSIS OF MATERIALS IN SAMPLE

SOI CELL FORMATION AND EMPHASIS

BIBLIOGRAPHIC DATA:

Exam reviews in hair structure and chemistry. (expanded). (4th ed.) New York:Milady Publishing, 1977. 105pp.

Program: Cosmetology

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	M	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																MMU NMU NMR MMR
1.1 Scope	-	+	-	+	-	-	-	+	-	+	-	+	-	-		
1.2 Sequence	-	+	-	+	-	-	-	+	-	+	-	+	-	-		Same
2. Organization																
2.1 Quantity of Student Interaction	-	+	-	+	-	-	-	+	-	+	-	+	-	-		MMU
2.2 Intensity of Student Interaction	-	+	-	+	-	-	-	+	-	+	-	+	-	-		NMU
2.3 Evaluation of Student Interaction	N/A															NMR MMR
3. Language																
3.1 Illustrations, tables, figures, diagrams, etc.	N/A questions only															
3.2 Readability level: with terminology with terminology 13.2 grade without terminology 11.9 grade	XXXX

Comments:

A series of study questions (multiple-choice for which there is only one right answer). About 70% biology and chemistry facts. Obviously, cognition could have been cited also, but in the case of question recall, memory implies cognition.

45A

BIBLIOGRAPHIC DATA:

Kibbe, C.V. Standard textbook of cosmetology. New York:Milady Publishing, 1977. 494 pp.

Program: Cosmetology

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	M	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																CSU CMU
1.1 Scope	+	-	-	+	-	-	+	+	-	+	-	-	-	-	-	NMU
1.2 Sequence	+	-	-	+	-	-	+	+	-	+	-	-	-	-	-	Same
2. Organization																
2.1 Quantity of Student Interaction	+	-	-	-	-	-	+	+	-	+	-	-	-	-	-	CSU CMU
2.2 Intensity of Student Interaction	study questions with answers given															
2.3 Evaluation of Student Interaction	no tests given															
3. Language																
3.1 Illustrations, tables, figures, diagrams, etc.	+	-	-	-	-	-	+	+	-	+	-	-	-	-	-	CSU CMU
3.2 Readability level: with terminology with terminology 11.9 grade without terminology 11.0 grade	XXXX

BIBLIOGRAPHIC DATA:

Milady staff, Cosmetologists State Board Exam. New York: Milady Publishing, 1975. 124 pp.*

Program: Cosmetology

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	M	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																MSU MSC MMU NSU NSC
1.1 Scope	-	+	-	+	-	-	+	+	-	+	+	-	-	-	-	NMU NSU
1.2 Sequence	-	+	-	+	-	-	+	+	-	+	+	-	-	-	-	
2. Organization																MSU MSC MMU NSU NSC
2.1 Quantity of Student Interaction	-	+	-	+	-	-	+	+	-	+	+	-	-	-	-	NMU NSS
2.2 Intensity of Student Interaction	-	+	-	+	-	-	+	+	-	+	+	-	-	-	-	
2.3 Evaluation of Student Interaction	N/A				No Feedback											
3. Language																
3.1 Illustrations, tables, figures, diagrams, etc.	N/A: questions only															
3.2 Readability level: with terminology with terminology 11.8 grade without terminology 8.7 grade	XXXX

Comments:

A series of multiple-choice questions, modeled on the state licensing exam, for which there is only right answer possible. Obviously cognition could have been claculated throughout, but memory, in such a strong convergent activity, certainly implies cognition.

BIBLIOGRAPHIC DATA:

Powitt, A.H. Hair structure and chemistry simplified. New York:Milady Publishing 1972. 303 pp.

Program: Cosmetology

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	M	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																CSU CSR
1.1 Scope	+	-	-	-	-	-	+	+	-	+	-	+	-	-	-	CMU
1.2 Sequence	+	-	-	-	-	-	-	+	-	+	+	-	-	-	-	CMU CMR
2. Organization																
2.1 Quantity of Student Interaction	N/A	No feedback mechanisms: no recall, no questions														
2.2 Intensity of Student Interaction	N/A	No feedback mechanisms														
2.3 Evaluation of Student Interaction	N/A	No tests or study questions														
3. Language																
3.1 Illustrations, tables, figures, diagrams, etc.	+	-	-	-	-	-	+	-	-	+	-	+	-	-		CSU CSR
3.2 Readability level: with terminology with terminology 10.6 grade without terminology 9.0 grade	XXXX

Comments:

Strictly presentational of simplified fact mixed with opinion and exhortation. Facts undocumented. Good glossary.

484

BIBLIOGRAPHIC DATA:

Kates, E.J. (revised by Luck, W.E.) Diesel and high compression gas engines. (3rd ed.) Chicago: American Technical Society, 1974 480 pp.

Program: Diesel Mechanics

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	M	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																CSU CMS CSR MSU
1.1 Scope	+	-	-	-	-	-	+	+	-	+	-	+	+	-	-	CSS MSR CMU MSS
1.2 Sequence	+	+	-	-	-	-	+	+	-	+	-	+	+	-	-	CMR
2. Organization																MMU MMR EMS
2.1 Quantity of Student Interaction	-	+	+	+	-	-	-	+	-	+	-	+	+	-	-	MMS NMU EMU NMR
2.2 Intensity of Student Interaction	-	+	+	+	-	-	-	+	-	+	-	+	+	-	-	EMR NMS
2.3 Evaluation of Student Interaction	N/A															
3. Language																CSU CMU CSR CMR
3.1 Illustrations, tables, figures, diagrams, etc.	+	-	-	-	-	-	+	+	-	+	-	+	+	-	-	CSS CMS
3.2 Readability level: with terminology with terminology 11.6 grade without terminology 8.1 grade	XXXX

BIBLIOGRAPHI[illegible]ATA:

Program: Diesel Mechanics

Staff-generated materials on units covering these topics: orientation, shop safety, basic shop tools, test equipment and service tools, engine lubricants, cooling systems, coolants, seals, fasteners, cylinder head assembly, lubrication system, and diesel fuels. Mimeo, no date. 204 pp.

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	M	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																CFU CSR CMS
1.1 Scope	+	-	+	-	-	+	+	+	-	+	-	+	+	-	-	CFR CSS EFR
1.2 Sequence	+	-	+	-	-	+	+	+	-	+	-	+	+	-	-	CFS CMU ESR CSU CMR ESS
2. Organization																
2.1 Quantity of Student Interaction	+	+	+	+	-	+	+	+	-	+	-	+	+	-	-	Same as under questions
2.2 Intensity of Student Interaction	N/A															
2.3 Evaluation of Student Interaction	N/A															
3. Language																
3.1 Illustrations, tables, figures, diagrams, etc.	+	-	+	-	-	-	+	+	-	+	-	-	-	-	-	CSU ESU CMU EMU
3.2 Readability level: with terminology with terminology 13. grade without terminology 5. grade	XXXX

Soft

69

NMR	CSU	CSR	CFS	NFU
NMU	CSR	ESC	MFU	NFR
NFU	ESU	ESR	MFR	NFS
NFR	ESR	CFU	MFS	
NFC	CSC	CFR	EFU	

BIBLIOGRAPHIC DATA:

Alerich, W.N. Electrical construction wiring.
Chicago: American Technical Society, 1971
467 pp.

Program: Electric Technology

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	M	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																CSU CMR CSR CMS CSS CSC CMU
1.1 Scope	C	-	-	-	-	-	+	+	-	+	+	+	+			
1.2 Sequence	C	-	-	-	-	-	+	+	-	+	+	+	+			
2. Organization																CSU MMU CMU DSU MSU DMU
2.1 Quantity of Student Interaction	+	+	-	+	-	-	+	+	-	+	-	-	-	-		
2.2 Intensity of Student Interaction																
2.3 Evaluation of Student Interaction	N/A															
3. Language																CSU CSS CMU CMR CSR CMS
3.1 Illustrations, tables, figures, diagrams, etc.	C	-	-	-	-	-	+	+		+	-	+	+	-	-	
3.2 Readability level: with terminology with terminology 11.4 grade without terminology 8.8 grade	XXXX

BIBLIOGRAPHIC DATA:

Alerich, W. Electricity 3: Motors, generators, controls. Albany:Delmar Publishers, 1974 187 pp.

Program: Electric Technology

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	~	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																CSU CSR CSS CMU CMR CMS
1.1 Scope	+	-	-	-	-	-	+	+	-	+	-	+	+	-	-	
1.2 Sequence	+	-	-	-	-	-	+	+	-	+	-	+	+	-	-	
2. Organization																
2.1 Quantity of Student Interaction	+	+	-	+	-	+	+	+	-	+	-	+	+	+	-	
2.2 Intensity of Student Interaction	+	+	-	+	-	+	+	+	-	+	-	+	+	+	-	OVER →
2.3 Evaluation of Student Interaction	N/A															
3. Language																CSU CMU CSR CMR CSS CMS
3.1 Illustrations, tables, figures, diagrams, etc.	+	-	-	-	-	-	+	+	-	+	-	+	+	-	-	
3.2 Readability level: with terminology with terminology 11.8 grade without terminology 8.0 grade	XXXX

NSU	NSR	NSS
CSU	CMU	CMR
MMU	NFU	CMS
MMR	NFR	NMU
MMS	NSU	NMR
		NMS

NMU	CMU	NSR
NMS	CMR	NSS
NMC	MSU	MMU
CFU	MSR	MMR
CFR	NSS	MMS
CFS	NSU	

BIBLIOGRAPHIC DATA:

Alerich, W. Electricity 4: Motors, generators, controls. Albany:Delmar Publishers, 1975. 180 pp.

Program: Electric Technology

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	M	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																CSU CSR CSS CMS
1.1 Scope	+	-	-	-	-	-	+	+	-	+	-	+	+	-	-	CMU CMR
1.2 Sequence	+	-	-	-	-	-	+	+	-	+	-	+	+	-	-	
2. Organization																NSU NMS MMR NSR NFU MMS
2.1 Quantity of Student Interaction	+	+	-	+	-	+	+	+	-	+	-	+	+	-	-	NSS NFR CMU NMU NSU CMR
2.2 Intensity of Student Interaction	+	+	-	+	-	+	+	+	-	+	-	+	+	-	-	NMR MMU CMS CSU
2.3 Evaluation of Student Interaction	N/A															
3. Language																CSU CMU CSR CMR
3.1 Illustrations, tables, figures, diagrams, etc.	+	-	-	-	-	-	+	+	-	+	-	+	+	-	-	CSS CMS
3.2 Readability level: with terminology with terminology 10.0 grade without terminology 8.0 grade	XXXX

53A

77

NMU	CFR	NSR
NMC	CFS	MSS
NMS	CMU	
CFU	CMR	
NSS	MSU	
NSU	MSR	

BIBLIOGRAPHI[illegible]ATA:

Kubula, T. Electricity 1: Devices, circuits, materials. Albany, N.Y.:Delman Publishing, 1974. 95 pp.

Program: Electric Technology

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	M	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																CSU CSR CSS CMU CMR CMS
1.1 Scope	+	-	-	-	-	-	+	+	-	+	-	+	+	-	-	
1.2 Sequence	+	-	-	-	-	-	+	+	-	+	-	+	+	-	-	
2. Organization																
2.1 Quantity of Student Interaction	+	+	-	+	-	+	+	+	-	+	-	+	+	-	-	OVER →
2.2 Intensity of Student Interaction	+	+	-	+	-	+	+	+	-	+	-	+	+	-	-	
2.3 Evaluation of Student Interaction	N/A															
3. Language																CSU CSR CSS CMR CMS CMU
3.1 Illustrations, tables, figures, diagrams, etc.	+	-	-	-	-	-	+	+	-	+	-	+	+	-	-	
3.2 Readability level: with terminology with terminology 10.8 grade without terminology 8.0 grade	XXXX

54#

CSU	MMU	NFU	NMU	NSU
CMU	MMR	NFR	NMR	NSR
CMR	MMS	NSU	NMS	NSS
CMS				

NMU	CSR	MSS	CMU
NMC	CSS	NFU	CMR
NMR	MFU	NSU	CMS
NMS	MSU	NSR	MMU
CSU	MSR	NSS	MMR
			MMS

BIBLIOGRAPHI[illegible]ATA:

Kubala, T. Electricity 2: Devices, circuits, materials. Albany, N.Y.:Delmar Publishing, 1974. 92 pp.

Program: Electric Technology

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	A	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																CSU CSR CSS
1.1 Scope	+	-	-	-	-	-	+	+	-	+	-	+	+	-	-	CMU CMR
1.2 Sequence	+	-	-	-	-	-	+	+	-	+	-	+	+	-	-	CMS
2. Organization																
2.1 Quantity of Student Interaction	+	+	-	+	-	+	+	+	-	+	-	+	+	-	-	
2.2 Intensity of Student Interaction	+	+	-	+	-	+	+	+	-	+	-	+	+	-	-	OVER →
2.3 Evaluation of Student Interaction	N/A															
3. Language																CSU CSR CSS CMR CMS
3.1 Illustrations, tables, figures, diagrams, etc.	+	-	-	-	-	-	+	+	-	+	-	+	+	-	-	CMU
3.2 Readability level: with terminology with terminology 10.6 grade without terminology 8.2 grade	XXXX

CSU	MMU	NFU	NMU	NSU
CMU	MMR	NFR	NMR	NSR
CMR	MMS	NSU	NMS	NSS
CMS				

SSN

NMU	CSR	MSS	CMU
NMC	CSS	NFU	CMR
NMR	MFU	NSU	CMS
NMS	MSU	NSR	MMU
CSU	MSR	NSS	MMR
			MMS

BIBLIOGRAPHI[illegible]ATA:

Loper, Ora E. Direct current fundamentals. Albany, N.Y.:Delmar Publishers, 1978 356 pp.

Program: Electric Technology

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	M	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																
1.1 Scope	+	-	-	-	-	-	+	+	-	+	+	+	+	-	-	CSU CMU CSC CMC
1.2 Sequence	+	-	-	-	-	-	+	+	-	+	+	+	+	-	-	CSR CMR CSS CMS
2. Organization																
2.1 Quantity of Student Interaction	+	-	-	-	-	-	+	+	-	+	+	+	+	-	-	Same As Content
2.2 Intensity of Student Interaction	+	-	-	-	-	-	+	+	-	+	+	+	+	-	-	
2.3 Evaluation of Student Interaction	N/A															
3. Language																
3.1 Illustrations, tables, figures, diagrams, etc.	+	-	-	-	-	-	+	+	-	+		+	+			CSU CMU CSR CMR CSS CMS
3.2 Readability level: with terminology with terminology 11.9 grade without terminology 6.9 grade	XXXX

52A

38

CSU	NMU	MMU
CSR	NMR	MMR
CSS	NMS	MMS
MSU	CMU	NSU
MSR	CMR	NSR
MSS	CMS	NSC

BIBLIOGRAPHIC DATA:

Program: Electric Technology

National Fire Protection Association, National electrical code, 1975 Boston:National Fire Protection Assn. 1974 616 pp. (594 text pages, 16 tables/examples pages)

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	M	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																
1.1 Scope	+	-	-	-	-	-	+	+	-	+	-	-	-	-	-	CMU CSU
1.2 Sequence	N/A															
2. Organization																
2.1 Quantity of Student Interaction	N/A															
2.2 Intensity of Student Interaction	N/A															
2.3 Evaluation of Student Interaction	N/A															
3. Language																
3.1 Illustrations, tables, figures, diagrams, etc.	+	-	-	-	-	-	+	+	-	+	+	+	+			CSU CMO CSR CMC CSS CMR
3.2 Readability level: with terminology with terminology 15. grade without terminology _____ grade	XXXX

BIBLIOGRAPHIC DATA:

Bredow, M. Medical office procedures. New York: McGraw-Hill, 1973. 278 text pages; 151 practice pages.

Program: Medical Secretary

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	M	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																
1.1 Scope	+	+	+	-	+	+	+	+	+	+	+	-	-	+	+	CFU CFT CSU CFI
1.2 Sequence	+	-	-	-	+	+	+	+	+	+	+	+	+	-	-	CMU CMI MMU CBI DMU EFU DMT EFC DMI EMI
2. Organization																
2.1 Quantity of Student Interaction	+	+	-	-	+	+	+	+	+	+	+	-	+	-	T	DBU DBI
2.2 Intensity of Student Interaction	+	+	-	-	+	+	+	+	+	+	+	-	+	-	T	CFC
2.3 Evaluation of Student Interaction	none given															
3. Language: secretary is exclusively "girl", "she"; doctor is exclusively "he", "Dr."																
3.1 Illustrations, tables, figures, diagrams, etc.																
3.2 Readability level: with terminology; with terminology 9.8 grade; without terminology 9.8 grade	XXXX

BIBLIOGRAPHI[illegible]ATA:

Gregg, J.R., Leslie, L.A. & Zoubek, C.E. Gregg Shorthand (2nd ed.) New York:McGraw-Hill, 1971 320 pp.

Program: Medical Secretary

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	M	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																
1.1 Scope	+	+	-	+	-		+	+		+		+				CSU CSR MSR CMU NSU
1.2 Sequence	-	-	-	+	-	-	+	+	-	+	-	+	-	-	-	MSU NSR
2. Organization																
2.1 Quantity of Student Interaction	+	+	-	+	-	-	+	-	-	+	-	+	-	-	-	CSU MSR CSR NSU
2.2 Intensity of Student Interaction	+	+	-	+	-	-	+	-	-	+	-	+	-	-	-	MSU NSR
2.3 Evaluation of Student Interaction	N/A															
3. Language																
3.1 Illustrations, tables, figures, diagrams, etc.	+	-	-	-	-	-	+	-	-	+	-	+	-	-	-	CSU CSR
3.2 Readability level: with terminology with terminology 11.6 grade without terminology 11.6 grade	XXXX

BIBLIOGRAPHICAL DATA:

Lessenberry, D.D. & others. 20th Century Typewriting
Cincinnati:South-Western Publishing Co.,
1977. 460 pp.

Program: Medical Secretary

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	A	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																
1.1 Scope	+	-	-	-	-	-	+	+	-	U	-	-	-	-	-	CSU CMU
1.2 Sequence	+	+	-	-	-	-	+	-	-	U	-	-	-	-	-	CSU MSU
2. Organization																CFU CMU NFU NMU
2.1 Quantity of Student Interaction	+	-	-	+	-	+	+	+	-	U	-	-	-	-	-	
2.2 Intensity of Student Interaction	+	-	-	+	+	-	+	+	-	U	-	-	-	-	-	CSU CMU NSU NMU
2.3 Evaluation of Student Interaction																
3. Language																
3.1 Illustrations, tables, figures, diagrams, etc.	+	-	-	-	-	-	+	-	-	+	-	-	-	-	-	CFU
3.2 Readability level: with terminology with terminology 11.8 grade without terminology 10.9 grade	XXXX

BIBLIOGRAPHI[illegible]ATA:

Stewart, J.R. & Kahn, G. Gregg quick filing practice. (2nd ed.) New York:McGraw-Hill, 1979. 46 instructionpp., 34 test pages, 96 practice pages.

Program: Medical Secretary

SOI CELL FORMATION AND EMPHASIS

	OPERATIONS					CONTENT				PRODUCTS						CELLS
	C	M	E	N	D	F	S	M	B	U	C	R	S	T	I	
1. Content																CSC ESR CSR EMR CSS CFU CMU CFC ESU CER ESC CFS EFU
1.1 Scope	+	-	+	-	-	+	+	+	-	+	+	+	+	-	-	
1.2 Sequence	+	+	-	-	-	+	+	+	-	-	+	+	+			
2. Organization																ESU CSU CSU CMU
2.1 Quantity of Student Interaction	+	-	+	-	-	-	+	+	-	+	-	-	-	-	-	
2.2 Intensity of Student Interaction	+	-	-	-	-	-	+	+	-	+	+	+	+			
2.3 Evaluation of Student Interaction	-	+	+	-	-	-	+	+	-	+	+	+	+	-	-	MSU MSS EMC MSC ESU EMR MSR EMU EMS
3. Language																
3.1 Illustrations, tables, figures, diagrams, etc.	N/A															
3.2 Readability level: with terminology with terminology 8.0 grade without terminology 8.0 grade	XXXX

DISTRIBUTION OF SAMPLE ANALYSIS

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4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA:

Program: Cosmetology

*Exam reviews in hair structure and chemistry (expanded)(4th ed) New York:Milady Publishing, 1977. 105 pp.

DISTRIBUTION:

		TOTAL: CONVENTION	1	2	3	4	T
	COGNITION						
(CFU)	of figural units		N/A	N/A		N/A	
(CFC)	of figural classes						
(CFR)	of figural relations						
(CFS)	of figural systems						
(CFT)	of figural transformations						
(CFI)	of figural implications						
(CSU)	of symbolic units						
(CSC)	of symbolic classes						
(CSR)	of symbolic relations						
(CSS)	of symbolic systems						
(CST)	of symbolic transformations						
(CSI)	of symbolic implications						
(CMU)	of semantic units						
(CMC)	of semantic classes						
(CMR)	of semantic relations						
(CMS)	of semantic systems						
(CMT)	of semantic transformations						
(CMI)	of semantic implications						

COGNITION (cont'd)	1	2	3	4	T
(CBU) of behavioral units					
(CBC) of behavioral classes					
(CBR) of behavioral relations					
(CBS) of behavioral systems					
(CBT) of behavioral transformations					
(CBI) of behavioral implications					
MEMORY					
(MFU) of figural units					
(MFC) of figural classes					
(MFR) of figural relations					
(MFS) of figural systems					
(MFT) of figural transformations					
(MFI) of figural implications					
(MSU) of symbolic units				11	11
(MSC) of symbolic classes					
(MSR) of symbolic relations					
(MSS) of symbolic systems					
(MST) of symbolic transformations					
(MSI) of symbolic implications					
(MMU) of semantic units			354		354
(MMC) of semantic classes					
(MMR) of semantic relations					
(MMS) of semantic systems					
(MMT) of semantic transformations					
(MMI) of semantic implications					

MEMORY (cont'd)	1	2	3	4	T
(MBU) of behavioral units					
(MBC) of behavioral classes					
(MBR) of behavioral relations					
(MBS) of behavioral systems					
(MBT) of behavioral transformations					
(MBI) of behavioral implications					
EVALUATION					
(EFU) of figural units					
(EFC) of figural classes					
(EFR) of figural relations					
(EFS) of figural systems					
(EFT) of figural transformations					
(EFI) of figural implications					
(ESU) of symbolic units					
(ESC) of symbolic classes					
(ESR) of symbolic relations					
(ESS) of symbolic systems					
(EST) of symbolic transformations					
(ESI) of symbolic implications					
(EMU) of semantic units			11		11
(EMC) of semantic classes					
(EMR) of semantic relations					
(EMS) of semantic systems					
(EMT) of semantic transformations					
(EMI) of semantic implications					

EVALUATION (cont'd)		1	2	3	4	T
(EBU)	of behavioral units					
(EBC)	of behavioral classes					
(EBR)	of behavioral relations					
(EBS)	of behavioral systems					
(EBT)	of behavioral transformations					
(EBI)	of behavioral implications					
	CONVERGENT PRODUCTION					
(NFU)	of figural units					
(NFC)	of figural classes					
(NFR)	of figural relations					
(NFS)	of figural systems					
(NFT)	of figural transformations					
(NFI)	of figural implications					
(NSU)	of symbolic units					
(NSC)	of symbolic classes					
(NSR)	of symbolic relations					
(NSS)	of symbolic systems					
(NST)	of symbolic transformations					
(NSI)	of symbolic implications					
(NMU)	of semantic units			342		342
(NMC)	of semantic classes			4		4
(NMR)	of semantic relations			9		9
(NMS)	of semantic systems			10		10
(NMT)	of semantic transformations					
(NMI)	of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units					
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)		1	2	3	4	T
(DBU)	of behavioral units					
(DBC)	of behavioral classes					
(DBR)	of behavioral relations					
(DBS)	of behavioral systems					
(DBT)	of behavioral transformations					
(DBI)	of behavioral implications					
	TOTAL					

TOTAL MATERIAL ANALYZED FOR CONVENTION 1: _____

2: _____

3: 365

4: _____

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
2. One illustration, diagram, figure, table, etc. on that page
3. Every third question in tests, study sections, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA:

Program: Cosmetology

Kibbe, C.V. Standard textbook of cosmetology. New York: Milady Publishing, 1977. 494 pp.

DISTRIBUTION:	TOTAL:	CONVENTION 1	2	3	4	T
COGNITION						
(CFU) of figural units						
(CFC) of figural classes						
(CFR) of figural relations						
(CFS) of figural systems						
(CFT) of figural transformations						
(CFI) of figural implications						
(CSU) of symbolic units			79			79
(CSC) of symbolic classes						
(CSR) of symbolic relations						
(CSS) of symbolic systems						
(CST) of symbolic transformations						
(CSI) of symbolic implications						
(CMU) of semantic units		121				121
(CMC) of semantic classes				29		29
(CMR) of semantic relations						
(CMS) of semantic systems						
(CMT) of semantic transformations						
(CMI) of semantic implications						

COGNITION (cont'd)	1	2	3	4	T
(CBU) of behavioral units					
(CBC) of behavioral classes					
(CBR) of behavioral relations					
(CBS) of behavioral systems					
(CBT) of behavioral transformations					
(CBI) of behavioral implications					
MEMORY					
(MFU) of figural units					
(MFC) of figural classes					
(MFR) of figural relations					
(MFS) of figural systems					
(MFT) of figural transformations					
(MFI) of figural implications					
(MSU) of symbolic units					
(MSC) of symbolic classes					
(MSR) of symbolic relations					
(MSS) of symbolic systems					
(MST) of symbolic transformations					
(MSI) of symbolic implications					
(MMU) of semantic units					
(MMC) of semantic classes					
(MMR) of semantic relations					
(MMS) of semantic systems					
(MMT) of semantic transformations					
(MMI) of semantic implications					

MEMORY (cont'd)	1	2	3	4	T
(MBU) of behavioral units					
(MBC) of behavioral classes					
(MBR) of behavioral relations					
(MBS) of behavioral systems					
(MBT) of behavioral transformations					
(MBI) of behavioral implications					
EVALUATION					
(EFU) of figural units					
(EFC) of figural classes					
(EFR) of figural relations					
(EFS) of figural systems					
(EFT) of figural transformations					
(EFI) of figural implications					
(ESU) of symbolic units					
(ESC) of symbolic classes					
(ESR) of symbolic relations					
(ESS) of symbolic systems					
(EST) of symbolic transformations					
(ESI) of symbolic implications					
(EMU) of semantic units					
(EMC) of semantic classes					
(EMR) of semantic relations					
(EMS) of semantic systems					
(EMT) of semantic transformations					
(EMI) of semantic implications					

EVALUATION (cont'd)	1	2	3	4	T
(EBU) of behavioral units					
(EBC) of behavioral classes					
(EBR) of behavioral relations					
(EBS) of behavioral systems					
(EBT) of behavioral transformations					
(EBI) of behavioral implications					
CONVERGENT PRODUCTION					
(NFU) of figural units					
(NFC) of figural classes					
(NFR) of figural relations					
(NFS) of figural systems					
(NFT) of figural transformations					
(NFI) of figural implications					
(NSU) of symbolic units					
(NSC) of symbolic classes					
(NSR) of symbolic relations					
(NSS) of symbolic systems					
(NST) of symbolic transformations					
(NSI) of symbolic implications					
(NMU) of semantic units			29		29
(NMC) of semantic classes					
(NMR) of semantic relations					
(NMS) of semantic systems					
(NMT) of semantic transformations					
(NMI) of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units					
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(DBU) of behavioral units					
(DBC) of behavioral classes					
(DBR) of behavioral relations					
(DBS) of behavioral systems					
(DBT) of behavioral transformations					
(DBI) of behavioral implications					
TOTAL					

TOTAL MATERIAL ANALYZED FOR CONVENTION 1: 151

2: 79

3: 29

4: _____

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
2. One illustration, diagram, figure, table, etc. on that page
3. Every third question in tests, study sections, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA:

Program: Cosmetology

Milady Staff, Cosmetologists State board exam review. New York: Milady Publishing, 1975. 124 pp.*

DISTRIBUTION:	TOTAL:	CONVENTION 1	2	3	4	T
COGNITION						
(CFU) of figural units						
(CFC) of figural classes						
(CFR) of figural relations						
(CFS) of figural systems						
(CFT) of figural transformations						
(CFI) of figural implications						
(CSU) of symbolic units						
(CSC) of symbolic classes						
(CSR) of symbolic relations						
(CSS) of symbolic systems						
(CST) of symbolic transformations						
(CSI) of symbolic implications						
(CMU) of semantic units						
(CMC) of semantic classes						
(CMR) of semantic relations						
(CMS) of semantic systems						
(CMT) of semantic transformations						
(CMI) of semantic implications						

* Sample tests were omitted.

COGNITION (cont'd)	1	2	3	4	T
(CBU) of behavioral units					
(CBC) of behavioral classes					
(CBR) of behavioral relations					
(CBS) of behavioral systems					
(CBT) of behavioral transformations					
(CBI) of behavioral implications					
MEMORY					
(MFU) of figural units					
(MFC) of figural classes					
(MFR) of figural relations					
(MFS) of figural systems					
(MFT) of figural transformations					
(MFI) of figural implications					
(MSU) of symbolic units				20	20
(MSC) of symbolic classes				32	32
(MSR) of symbolic relations					
(MSS) of symbolic systems					
(MST) of symbolic transformations					
(MSI) of symbolic implications					
(MMU) of semantic units			348		348
(MMC) of semantic classes					
(MMR) of semantic relations					
(MMS) of semantic systems					
(MMT) of semantic transformations					
(MMI) of semantic implications					

MEMORY (cont'd)	1	2	3	4	T
(MBU) of behavioral units					
(MBC) of behavioral classes					
(MBR) of behavioral relations					
(MBS) of behavioral systems					
(MBT) of behavioral transformations					
(MBI) of behavioral implications					
EVALUATION					
(EFU) of figural units					
(EFC) of figural classes					
(EFR) of figural relations					
(EFS) of figural systems					
(EFT) of figural transformations					
(EFI) of figural implications					
(ESU) of symbolic units					
(ESC) of symbolic classes					
(ESR) of symbolic relations					
(ESS) of symbolic systems					
(EST) of symbolic transformations					
(ESI) of symbolic implications					
(EMU) of semantic units					
(EMC) of semantic classes					
(EMR) of semantic relations					
(EMS) of semantic systems					
(EMT) of semantic transformations					
(EMI) of semantic implications					

EVALUATION (cont'd)		1	2	3	4	T
(EBU)	of behavioral units					
(EBC)	of behavioral classes					
(EBR)	of behavioral relations					
(EBS)	of behavioral systems					
(EBT)	of behavioral transformations					
(EBI)	of behavioral implications					
	CONVERGENT PRODUCTION					
(NFU)	of figural units					
(NFC)	of figural classes					
(NFR)	of figural relations					
(NFS)	of figural systems					
(NFT)	of figural transformations					
(NFI)	of figural implications					
(NSU)	of symbolic units			20		20
(NSC)	of symbolic classes			32		32
(NSR)	of symbolic relations					
(NSS)	of symbolic systems					
(NST)	of symbolic transformations					
(NSI)	of symbolic implications					
(NMU)	of semantic units			348		348
(NMC)	of semantic classes					
(NMR)	of semantic relations					
(NMS)	of semantic systems					
(NMT)	of semantic transformations					
(NMI)	of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units					
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(DBU) of behavioral units					
(DBC) of behavioral classes					
(DBR) of behavioral relations					
(DBS) of behavioral systems					
(DBT) of behavioral transformations					
(DBI) of behavioral implications					
TOTAL					

TOTAL MATERIAL ANALYZED FOR CONVENTION

1: 0

2: 0

3: 400

4: 0

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
2. One illustration, diagram, figure, table, etc. on that page
3. Every third question in tests, study sections, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA:

Program: Cosmetology

Powitt, A.H., Hair structure and chemistry simplified. New York Milady Publishing, 1972. 303 pp. (286 text)

DISTRIBUTION:	TOTAL: CONVENTION	1	2	3	4	T
COGNITION						
(CFU) of figural units			N/A	N/A		
(CFC) of figural classes						
(CFR) of figural relations						
(CFS) of figural systems						
(CFT) of figural transformations						
(CFI) of figural implications						
(CSU) of symbolic units		16	17			33
(CSC) of symbolic classes						
(CSR) of symbolic relations		3	8			11
(CSS) of symbolic systems			2			2
(CST) of symbolic transformations						
(CSI) of symbolic implications		1	1			2
(CMU) of semantic units		82				82
(CMC) of semantic classes						
(CMR) of semantic relations						
(CMS) of semantic systems						
(CMT) of semantic transformations						
(CMI) of semantic implications						

COGNITION (cont'd)	1	2	3	4	T
(CBU) of behavioral units					
(CBC) of behavioral classes					
(CBR) of behavioral relations					
(CBS) of behavioral systems					
(CBT) of behavioral transformations					
(CBI) of behavioral implications					
MEMORY					
(MFU) of figural units					
(MFC) of figural classes					
(MFR) of figural relations					
(MFS) of figural systems					
(MFT) of figural transformations					
(MFI) of figural implications					
(MSU) of symbolic units					
(MSC) of symbolic classes					
(MSR) of symbolic relations					
(MSS) of symbolic systems					
(MST) of symbolic transformations					
(MSI) of symbolic implications					
(MMU) of semantic units					
(MMC) of semantic classes					
(MMR) of semantic relations					
(MMS) of semantic systems					
(MMT) of semantic transformations	1				1
(MMI) of semantic implications					

MEMORY (cont'd)	1	2	3	4	T
(MBU) of behavioral units					
(MBC) of behavioral classes					
(MBR) of behavioral relations					
(MBS) of behavioral systems					
(MBT) of behavioral transformations					
(MBI) of behavioral implications					
EVALUATION					
(EFU) of figural units	1				1
(EFC) of figural classes					
(EFR) of figural relations					
(EFS) of figural systems					
(EFT) of figural transformations					
(EFI) of figural implications					
(ESU) of symbolic units					
(ESC) of symbolic classes					
(ESR) of symbolic relations					
(ESS) of symbolic systems					
(EST) of symbolic transformations					
(ESI) of symbolic implications					
(EMU) of semantic units					
(EMC) of semantic classes					
(EMR) of semantic relations					
(EMS) of semantic systems					
(EMT) of semantic transformations					
(EMI) of semantic implications					

EVALUATION (cont'd)	1	2	3	4	T
(EBU) of behavioral units					
(EBC) of behavioral classes					
(EBR) of behavioral relations					
(EBS) of behavioral systems					
(EBT) of behavioral transformations					
(EBI) of behavioral implications					
CONVERGENT PRODUCTION					
(NFU) of figural units					
(NFC) of figural classes					
(NFR) of figural relations					
(NFS) of figural systems					
(NFT) of figural transformations					
(NFI) of figural implications					
(NSU) of symbolic units	1				1
(NSC) of symbolic classes					
(NSR) of symbolic relations					
(NSS) of symbolic systems					
(NST) of symbolic transformations					
(NSI) of symbolic implications					
(NMU) of semantic units	3				3
(NMC) of semantic classes					
(NMR) of semantic relations					
(NMS) of semantic systems					
(NMT) of semantic transformations					
(NMI) of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units					
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)		1	2	3	4	T
(DBU)	of behavioral units					
(DBC)	of behavioral classes					
(DBR)	of behavioral relations					
(DBS)	of behavioral systems					
(DBT)	of behavioral transformations					
(DBI)	of behavioral implications					
	TOTAL	108	28			

TOTAL MATERIAL ANALYZED FOR CONVENTION 1: 95

2: 39

3: _____

4: _____

APPENDIX E

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
2. One illustration, diagram, figure, table, etc. on that page
3. Every third question in tests, study sections, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA:

Program: Diesel Mechanics

Kates. E.J. (revised by Luck, W.E.) Diesel and high compression gas engines. Chicago:American Technical Society, 1974 480 pp.

DISTRIBUTION:

COGNITION	TOTAL: CONVENTION	1	2	3	4	T
(CFU) of figural units						
(CFC) of figural classes						
(CFR) of figural relations						
(CFS) of figural systems						
(CFT) of figural transformations						
(CFI) of figural implications						
(CSU) of symbolic units			107			107
(CSC) of symbolic classes						
(CSR) of symbolic relations			29			29
(CSS) of symbolic systems			18			18
(CST) of symbolic transformations						
(CSI) of symbolic implications						
(CMU) of semantic units		107				107
(CMC) of semantic classes						
(CMR) of semantic relations		31				31
(CMS) of semantic systems		16				16
(CMT) of semantic transformations						
(CMI) of semantic implications						

COGNITION (cont'd)	1	2	3	4	T
(CBU) of behavioral units					
(CBC) of behavioral classes					
(CBR) of behavioral relations					
(CBS) of behavioral systems					
(CBT) of behavioral transformations					
(CBI) of behavioral implications					
MEMORY					
(MFU) of figural units					
(MFC) of figural classes					
(MFR) of figural relations					
(MFS) of figural systems					
(MFT) of figural transformations					
(MFI) of figural implications					
(MSU) of symbolic units					
(MSC) of symbolic classes					
(MSR) of symbolic relations					
(MSS) of symbolic systems					
(MST) of symbolic transformations					
(MSI) of symbolic implications					
(MMU) of semantic units			20		20
(MMC) of semantic classes					
(MMR) of semantic relations			16		16
(MMS) of semantic systems					
(MMT) of semantic transformations					
(MMI) of semantic implications					

MEMORY (cont'd)		1	2	3	4	T
(MBU)	of behavioral units					
(MBC)	of behavioral classes					
(MBR)	of behavioral relations					
(MBS)	of behavioral systems					
(MBT)	of behavioral transformations					
(MBI)	of behavioral implications					
	EVALUATION					
(EFU)	of figural units					
(EFC)	of figural classes					
(EFR)	of figural relations					
(EFS)	of figural systems					
(EFT)	of figural transformations					
(EFI)	of figural implications					
(ESU)	of symbolic units					
(ESC)	of symbolic classes					
(ESR)	of symbolic relations					
(ESS)	of symbolic systems					
(EST)	of symbolic transformations					
(ESI)	of symbolic implications					
(EMU)	of semantic units					
(EMC)	of semantic classes					
(EMR)	of semantic relations					
(EMS)	of semantic systems			4		4
(EMT)	of semantic transformations					
(EMI)	of semantic implications					

EVALUATION (cont'd)	1	2	3	4	T
(EBU) of behavioral units					
(EBC) of behavioral classes					
(EBR) of behavioral relations					
(EBS) of behavioral systems					
(EBT) of behavioral transformations					
(EBI) of behavioral implications					
CONVERGENT PRODUCTION					
(NFU) of figural units					
(NFC) of figural classes					
(NFR) of figural relations					
(NFS) of figural systems					
(NFT) of figural transformations					
(NFI) of figural implications					
(NSU) of symbolic units					
(NSC) of symbolic classes					
(NSR) of symbolic relations					
(NSS) of symbolic systems					
(NST) of symbolic transformations					
(NSI) of symbolic implications					
(NMU) of semantic units					
(NMC) of semantic classes					
(NMR) of semantic relations			16		16
(NMS) of semantic systems					
(NMT) of semantic transformations			1		1
(NMI) of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units					
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(DBU) of behavioral units					
(DBC) of behavioral classes					
(DBR) of behavioral relations					
(DBS) of behavioral systems					
(DBT) of behavioral transformations					
(DBI) of behavioral implications					
TOTAL	154	154	57		

TOTAL MATERIAL ANALYZED FOR CONVENTION

1: 154
2: 154
3: 20
4: --

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
2. One illustration, diagram, figure, table, etc. on that page
3. Every third question in tests, study sections, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA: Program: Diesel Mechanics

Staff-generated materials on units covering these topics: orientation, shop safety, basic shop tools, test equipment and service tools, engine lubricants, cooling systems, coolants, seals, fasteners, cylinder head assembly, lubrication system, and diesel fuels. Mimeo, no date. 204 pp.

DISTRIBUTION:

COGNITION	TOTAL: CONVENTION	1	2	3	4	T
(CFU)	of figural units		20	34		74
(CFC)	of figural classes		4	4		8
(CFR)	of figural relations		4	4		8
(CFS)	of figural systems					
(CFT)	of figural transformations					
(CFI)	of figural implications					
(CSU)	of symbolic units	38	90			128
(CSC)	of symbolic classes		4			4
(CSR)	of symbolic relations	4	16			20
(CSS)	of symbolic systems		10			10
(CST)	of symbolic transformations					
(CSI)	of symbolic implications					
(CMU)	of semantic units	22	90	24		134
(CMC)	of semantic classes		4			4
(CMR)	of semantic relations	8	16			24
(CMS)	of semantic systems	2	10			12
(CMT)	of semantic transformations					
(CMI)	of semantic implications					

COGNITION (cont'd)		1	2	3	4	T
(CBU)	of behavioral units					
(CBC)	of behavioral classes					
(CBR)	of behavioral relations					
(CBS)	of behavioral systems					
(CBT)	of behavioral transformations					
(CBI)	of behavioral implications					
	MEMORY					
(MFU)	of figural units			18		18
(MFC)	of figural classes					
(MFR)	of figural relations			4		4
(MFS)	of figural systems			4		4
(MFT)	of figural transformations					
(MFI)	of figural implications					
(MSU)	of symbolic units					
(MSC)	of symbolic classes					
(MSR)	of symbolic relations					
(MSS)	of symbolic systems					
(MST)	of symbolic transformations					
(MSI)	of symbolic implications					
(MMU)	of semantic units			24		24
(MMC)	of semantic classes					
(MMR)	of semantic relations			8		8
(MMS)	of semantic systems					
(MMT)	of semantic transformations					
(MMI)	of semantic implications					

MEMORY (cont'd)	1	2	3	4	T
(MBU) of behavioral units					
(MBC) of behavioral classes					
(MBR) of behavioral relations					
(MBS) of behavioral systems					
(MBT) of behavioral transformations					
(MBI) of behavioral implications					
EVALUATION					
(EFU) of figural units					
(EFC) of figural classes					
(EFR) of figural relations		4	8		12
(EFS) of figural systems					
(EFT) of figural transformations					
(EFI) of figural implications					
(ESU) of symbolic units			4		4
(ESC) of symbolic classes					
(ESR) of symbolic relations		4	4		8
(ESS) of symbolic systems		4	4		8
(EST) of symbolic transformations					
(ESI) of symbolic implications					
(EMU) of semantic units					
(EMC) of semantic classes					
(EMR) of semantic relations					
(EMS) of semantic systems					
(EMT) of semantic transformations					
(EMI) of semantic implications					

EVALUATION (cont'd)	1	2	3	4	T
(EBU) of behavioral units					
(EBC) of behavioral classes					
(EBR) of behavioral relations					
(EBS) of behavioral systems					
(EBT) of behavioral transformations					
(EBI) of behavioral implications					
CONVERGENT PRODUCTION					
(NFU) of figural units			34		34
(NFC) of figural classes					
(NFR) of figural relations			4		4
(NFS) of figural systems			4		4
(NFT) of figural transformations					
(NFI) of figural implications					
(NSU) of symbolic units					
(NSC) of symbolic classes					
(NSR) of symbolic relations					
(NSS) of symbolic systems					
(NST) of symbolic transformations					
(NSI) of symbolic implications					
(NMU) of semantic units			24		24
(NMC) of semantic classes					
(NMR) of semantic relations			8		8
(NMS) of semantic systems					
(NMT) of semantic transformations					
(NMI) of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units					
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(DBU) of behavioral units					
(DBC) of behavioral classes					
(DBR) of behavioral relations					
(DBS) of behavioral systems					
(DBT) of behavioral transformations					
(DBI) of behavioral implications					
TOTAL	74	280	218		

TOTAL MATERIAL ANALYZED FOR CONVENTION 1: 20
2: 65
3: 43
4: --

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
2. One illustration, diagram, figure, table, etc. on that page
3. Every third question in tests, study sections, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA:

Program: Electric Technology

Alerich, W.N. Electrical construction wiring. Chicago:American Technical Society, 1971 467 pp.

TOTAL:

DISTRIBUTION:

COGNITION	CONVENTION	1	2	3	4	T
(CFU)	of figural units					
(CFC)	of figural classes					
(CFR)	of figural relations					
(CFS)	of figural systems					
(CFT)	of figural transformations					
(CFI)	of figural implications					
(CSU)	of symbolic units		80			
(CSC)	of symbolic classes		12			
(CSR)	of symbolic relations		25			
(CSS)	of symbolic systems		6			
(CST)	of symbolic transformations					
(CSI)	of symbolic implications					
(CMU)	of semantic units	106				
(CMC)	of semantic classes	8				
(CMR)	of semantic relations	23				
(CMS)	of semantic systems	16				
(CMT)	of semantic transformations					
(CMI)	of semantic implications					

COGNITION (cont'd)	1	2	3	4	T
(CBU) of behavioral units					
(CBC) of behavioral classes					
(CBR) of behavioral relations					
(CBS) of behavioral systems					
(CBT) of behavioral transformations					
(CBI) of behavioral implications					
MEMORY					
(MFU) of figural units					
(MFC) of figural classes					
(MFR) of figural relations					
(MFS) of figural systems					
(MFT) of figural transformations					
(MFI) of figural implications					
(MSU) of symbolic units				10	
(MSC) of symbolic classes				2	
(MSR) of symbolic relations				1	
(MSS) of symbolic systems				1	
(MST) of symbolic transformations					
(MSI) of symbolic implications					
(MMU) of semantic units			10		
(MMC) of semantic classes			1		
(MMR) of semantic relations					
(MMS) of semantic systems			1		
(MMT) of semantic transformations					
(MMI) of semantic implications					

MEMORY (cont'd)		1	2	3	4	T
(MBU)	of behavioral units					
(MBC)	of behavioral classes					
(MBR)	of behavioral relations					
(MBS)	of behavioral systems					
(MBT)	of behavioral transformations					
(MBI)	of behavioral implications					
EVALUATION						
(EFU)	of figural units					
(EFC)	of figural classes					
(EFR)	of figural relations					
(EFS)	of figural systems					
(EFT)	of figural transformations					
(EFI)	of figural implications					
(ESU)	of symbolic units					
(ESC)	of symbolic classes					
(ESR)	of symbolic relations					
(ESS)	of symbolic systems					
(EST)	of symbolic transformations					
(ESI)	of symbolic implications					
(EMU)	of semantic units					
(EMC)	of semantic classes					
(EMR)	of semantic relations					
(EMS)	of semantic systems					
(EMT)	of semantic transformations					
(EMI)	of semantic implications					

EVALUATION (cont'd)	1	2	3	4	T
(EBU) of behavioral units					
(EBC) of behavioral classes					
(EBR) of behavioral relations					
(EBS) of behavioral systems					
(EBT) of behavioral transformations					
(EBI) of behavioral implications					
CONVERGENT PRODUCTION					
(NFU) of figural units					
(NFC) of figural classes					
(NFR) of figural relations					
(NFS) of figural systems					
(NFT) of figural transformations					
(NFI) of figural implications					
(NSU) of symbolic units			10		
(NSC) of symbolic classes			2		
(NSR) of symbolic relations			1		
(NSS) of symbolic systems			1		
(NST) of symbolic transformations					
(NSI) of symbolic implications					
(NMU) of semantic units			10		
(NMC) of semantic classes			1		
(NMR) of semantic relations					
(NMS) of semantic systems			1		
(NMT) of semantic transformations					
(NMI) of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units					
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(DBU) of behavioral units					
(DBC) of behavioral classes					
(DBR) of behavioral relations					
(DBS) of behavioral systems					
(DBT) of behavioral transformations					
(DBI) of behavioral implications					
TOTAL	153	123	38		

TOTAL MATERIAL ANALYZED FOR CONVENTION 1: 154

2: 142

3: 34

4: N/A

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
2. One illustration, diagram, figure, table, etc. on that page
3. Every third question in tests, study sections, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA: Program: Electric Technology

Alerich, W. Electricity 3: Motors, generators, controls. Albany, N.Y.:Delman Publishers, 1974 187 pp.

TOTAL: CONVENTION

DISTRIBUTION:

	COGNITION	1	2	3	4	T
(CFU)	of figural units					
(CFC)	of figural classes					
(CFR)	of figural relations					
(CFS)	of figural systems					
(CFT)	of figural transformations					
(CFI)	of figural implications					
(CSU)	of symbolic units		32			32
(CSC)	of symbolic classes					
(CSR)	of symbolic relations		9			9
(CSS)	of symbolic systems		4			4
(CST)	of symbolic transformations					
(CSI)	of symbolic implications					
(CMU)	of semantic units	44	32			76
(CMC)	of semantic classes					
(CMR)	of semantic relations	4	9			13
(CMS)	of semantic systems	3	4			7
(CMT)	of semantic transformations					
(CMI)	of semantic implications					

COGNITION (cont'd)	1	2	3	4	T
(CBU) of behavioral units					
(CBC) of behavioral classes					
(CBR) of behavioral relations					
(CBS) of behavioral systems					
(CBT) of behavioral transformations					
(CBI) of behavioral implications					
MEMORY					
(MFU) of figural units					
(MFC) of figural classes					
(MFR) of figural relations					
(MFS) of figural systems					
(MFT) of figural transformations					
(MFI) of figural implications					
(MSU) of symbolic units			28		28
(MSC) of symbolic classes					
(MSR) of symbolic relations			7		7
(MSS) of symbolic systems			7		7
(MST) of symbolic transformations					
(MSI) of symbolic implications					
(MMU) of semantic units			72		72
(MMC) of semantic classes					
(MMR) of semantic relations			15		15
(MMS) of semantic systems			5		5
(MMT) of semantic transformations					
(MMI) of semantic implications					

MEMORY (cont'd)	1	2	3	4	T
(MBU) of behavioral units					
(MBC) of behavioral classes					
(MBR) of behavioral relations					
(MBS) of behavioral systems					
(MBT) of behavioral transformations					
(MBI) of behavioral implications					
EVALUATION					
(EFU) of figural units					
(EFC) of figural classes					
(EFR) of figural relations					
(EFS) of figural systems					
(EFT) of figural transformations					
(EFI) of figural implications					
(ESU) of symbolic units					
(ESC) of symbolic classes					
(ESR) of symbolic relations					
(ESS) of symbolic systems					
(EST) of symbolic transformations					
(ESI) of symbolic implications					
(EMU) of semantic units					
(EMC) of semantic classes					
(EMR) of semantic relations					
(EMS) of semantic systems					
(EMT) of semantic transformations					
(EMI) of semantic implications					

EVALUATION (cont'd)	1	2	3	4	T
(EBU) of behavioral units					
(EBC) of behavioral classes					
(EBR) of behavioral relations					
(EBS) of behavioral systems					
(EBT) of behavioral transformations					
(EBI) of behavioral implications					
CONVERGENT PRODUCTION					
(NFU) of figural units			8		8
(NFC) of figural classes					
(NFR) of figural relations			10		10
(NFS) of figural systems					
(NFT) of figural transformations					
(NFI) of figural implications					
(NSU) of symbolic units			18		18
(NSC) of symbolic classes					
(NSR) of symbolic relations					
(NSS) of symbolic systems					
(NST) of symbolic transformations					
(NSI) of symbolic implications					
(NMU) of semantic units			61		61
(NMC) of semantic classes					
(NMR) of semantic relations			10		10
(NMS) of semantic systems			6		6
(NMT) of semantic transformations					
(NMI) of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units					
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(DBU) of behavioral units					
(DBC) of behavioral classes					
(DBR) of behavioral relations					
(DBS) of behavioral systems					
(DBT) of behavioral transformations					
(DBI) of behavioral implications					
TOTAL	51	90	257 (3)		

TOTAL MATERIAL ANALYZED FOR CONVENTION 1: 45
2: 45
3: 68
4: --

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
2. One illustration, diagram, figure, table, etc. on that page
3. Every third question in tests, study sections, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA: **Program:** Electric Technology

Alerich, W. Electricity 4: Motors, generators, controls. Albany N.Y.:Delmar Publishers, 1975
180 pp.

DISTRIBUTION:

COGNITION	TOTAL: CONVENTION	1	2	3	4	T
(CFU) of figural units						
(CFC) of figural classes						
(CFR) of figural relations						
(CFS) of figural systems						
(CFT) of figural transformations						
(CFI) of figural implications						
(CSU) of symbolic units			30			30
(CSC) of symbolic classes						
(CSR) of symbolic relations			8			8
(CSS) of symbolic systems			3			3
(CST) of symbolic transformations						
(CSI) of symbolic implications						
(CMU) of semantic units		39	30			69
(CMC) of semantic classes						
(CMR) of semantic relations		3	8			11
(CMS) of semantic systems		3	3			6
(CMT) of semantic transformations						
(CMI) of semantic implications						

COGNITION (cont'd)		1	2	3	4	T
(CBU)	of behavioral units					
(CBC)	of behavioral classes					
(CBR)	of behavioral relations					
(CBS)	of behavioral systems					
(CBT)	of behavioral transformations					
(CBI)	of behavioral implications					
	MEMORY					
(MFU)	of figural units					
(MFC)	of figural classes					
(MFR)	of figural relations					
(MFS)	of figural systems					
(MFT)	of figural transformations					
(MFI)	of figural implications					
(MSU)	of symbolic units			21		21
(MSC)	of symbolic classes					
(MSR)	of symbolic relations			4		4
(MSS)	of symbolic systems			4		4
(MST)	of symbolic transformations					
(MSI)	of symbolic implications					
(MMU)	of semantic units			50		50
(MMC)	of semantic classes					
(MMR)	of semantic relations			12		12
(MMS)	of semantic systems			3		3
(MMT)	of semantic transformations					
(MMI)	of semantic implications					

MEMORY (cont'd)	1	2	3	4	T
(MBU) of behavioral units					
(MBC) of behavioral classes					
(MBR) of behavioral relations					
(MBS) of behavioral systems					
(MBT) of behavioral transformations					
(MBI) of behavioral implications					
EVALUATION					
(EFU) of figural units					
(EFC) of figural classes					
(EFR) of figural relations					
(EFS) of figural systems					
(EFT) of figural transformations					
(EFI) of figural implications					
(ESU) of symbolic units					
(ESC) of symbolic classes					
(ESR) of symbolic relations					
(ESS) of symbolic systems					
(EST) of symbolic transformations					
(ESI) of symbolic implications					
(EMU) of semantic units					
(EMC) of semantic classes					
(EMR) of semantic relations					
(EMS) of semantic systems					
(EMT) of semantic transformations					
(EMI) of semantic implications					

EVALUATION (cont'd)	1	2	3	4	T
(EBU) of behavioral units					
(EBC) of behavioral classes					
(EBR) of behavioral relations					
(EBS) of behavioral systems					
(EBT) of behavioral transformations					
(EBI) of behavioral implications					
CONVERGENT PRODUCTION					
(NFU) of figural units			5		5
(NFC) of figural classes					
(NFR) of figural relations			10		10
(NFS) of figural systems					
(NFT) of figural transformations					
(NFI) of figural implications					
(NSU) of symbolic units			12		12
(NSC) of symbolic classes					
(NSR) of symbolic relations					
(NSS) of symbolic systems					
(NST) of symbolic transformations					
(NSI) of symbolic implications					
(NMU) of semantic units			40		40
(NMC) of semantic classes					
(NMR) of semantic relations			4		4
(NMS) of semantic systems			5		5
(NMT) of semantic transformations					
(NMI) of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic unfts					
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(DBU) of behavioral units					
(DBC) of behavioral classes					
(DBR) of behavioral relations					
(DBS) of behavioral systems					
(DBT) of behavioral transformations					
(DBI) of behavioral implications					
TOTAL	45	82	216		

TOTAL MATERIAL ANALYZED FOR CONVENTION 1: 42
2: 44
3: 55
4: --

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
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3. Every third question in tests, study sections, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA:

Program: Electric Technology

Kubala, T. Electricity 1: Devices, circuits, materials. Albany, N.Y.:Delmar Pub., 1974 95 pp.

DISTRIBUTION:		TOTAL: CONVENTION	1	2	3	4	T
	COGNITION						
(CFU)	of figural units						
(CFC)	of figural classes						
(CFR)	of figural relations						
(CFS)	of figural systems						
(CFT)	of figural transformations						
(CFI)	of figural implications						
(CSU)	of symbolic units			27			27
(CSC)	of symbolic classes						
(CSR)	of symbolic relations			16			16
(CSS)	of symbolic systems			6			6
(CST)	of symbolic transformations						
(CSI)	of symbolic implications						
(CMU)	of semantic units		28	27			55
(CMC)	of semantic classes						
(CMR)	of semantic relations		6	16			22
(CMS)	of semantic systems		6	6			12
(CMT)	of semantic transformations						
(CMI)	of semantic implications						

COGNITION (cont'd)	1	2	3	4	T
(CBU) of behavioral units					
(CBC) of behavioral classes					
(CBR) of behavioral relations					
(CBS) of behavioral systems					
(CBT) of behavioral transformations					
(CBI) of behavioral implications					
MEMORY					
(MFU) of figural units					
(MFC) of figural classes					
(MFR) of figural relations					
(MFS) of figural systems					
(MFT) of figural transformations					
(MFI) of figural implications					
(MSU) of symbolic units			20		20
(MSC) of symbolic classes					
(MSR) of symbolic relations			10		10
(MSS) of symbolic systems			4		4
(MST) of symbolic transformations					
(MSI) of symbolic implications					
(MMU) of semantic units			67		67
(MMC) of semantic classes			4		4
(MMR) of semantic relations			17		17
(MMS) of semantic systems			12		12
(MMT) of semantic transformations					
(MMI) of semantic implications					

MEMORY (cont'd)	1	2	3	4	T
(MBU) of behavioral units					
(MBC) of behavioral classes					
(MBR) of behavioral relations					
(MBS) of behavioral systems					
(MBT) of behavioral transformations					
(MBI) of behavioral implications					
EVALUATION					
(EFU) of figural units					
(EFC) of figural classes					
(EFR) of figural relations					
(EFS) of figural systems					
(EFT) of figural transformations					
(EFI) of figural implications					
(ESU) of symbolic units					
(ESC) of symbolic classes					
(ESR) of symbolic relations					
(ESS) of symbolic systems					
(EST) of symbolic transformations					
(ESI) of symbolic implications					
(EMU) of semantic units					
(EMC) of semantic classes					
(EMR) of semantic relations					
(EMS) of semantic systems					
(EMT) of semantic transformations					
(EMI) of semantic implications					

EVALUATION (cont'd)	1	2	3	4	T
(EBU) of behavioral units					
(EBC) of behavioral classes					
(EBR) of behavioral relations					
(EBS) of behavioral systems					
(EBT) of behavioral transformations					
(EBI) of behavioral implications					
CONVERGENT PRODUCTION					
(NFU) of figural units			11		11
(NFC) of figural classes					
(NFR) of figural relations			2		2
(NFS) of figural systems			2		2
(NFT) of figural transformations					
(NFI) of figural implications					
(NSU) of symbolic units					
(NSC) of symbolic classes					
(NSR) of symbolic relations					
(NSS) of symbolic systems					
(NST) of symbolic transformations					
(NSI) of symbolic implications					
(NMU) of semantic units			58		58
(NMC) of semantic classes					
(NMR) of semantic relations			12		12
(NMS) of semantic systems			14		14
(NMT) of semantic transformations					
(NMI) of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units					
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(DBU) of behavioral units					
(DBC) of behavioral classes					
(DBR) of behavioral relations					
(DBS) of behavioral systems					
(DBT) of behavioral transformations					
(DBI) of behavioral implications					
TOTAL	40	98	331		

TOTAL MATERIAL ANALYZED FOR CONVENTION

1: 21

2: 20

3: 55

4: --

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
2. One illustration, diagram, figure, table, etc. on that page
3. Every third question in tests, study sections, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA:

Program: Electric Technology

Kubala, T. Electricity 2: Devices, circuits, materials. Albany, N.Y.:Delmar Pub., 1974 92 pp.

TOTAL: CONVENTION

DISTRIBUTION:

		1	2	3	4	T
	COGNITION					
(CFU)	of figural units					
(CFC)	of figural classes					
(CFR)	of figural relations					
(CFS)	of figural systems					
(CFT)	of figural transformations					
(CFI)	of figural implications					
(CSU)	of symbolic units		28			28
(CSC)	of symbolic classes					
(CSR)	of symbolic relations		10			10
(CSS)	of symbolic systems		2			2
(CST)	of symbolic transformations					
(CSI)	of symbolic implications					
(CMU)	of semantic units	19	28			47
(CMC)	of semantic classes					
(CMR)	of semantic relations	4	10			14
(CMS)	of semantic systems	3	2			5
(CMT)	of semantic transformations					
(CMI)	of semantic implications					

COGNITION (cont'd)	1	2	3	4	T
(CBU) of behavioral units					
(CBC) of behavioral classes					
(CBR) of behavioral relations					
(CBS) of behavioral systems					
(CBT) of behavioral transformations					
(CBI) of behavioral implications					
MEMORY					
(MFU) of figural units					
(MFC) of figural classes					
(MFR) of figural relations					
(MFS) of figural systems					
(MFT) of figural transformations					
(MFI) of figural implications					
(MSU) of symbolic units			30		30
(MSC) of symbolic classes					
(MSR) of symbolic relations			16		16
(MSS) of symbolic systems			5		5
(MST) of symbolic transformations					
(MSI) of symbolic implications					
(MMU) of semantic units			52		52
(MMC) of semantic classes					
(MMR) of semantic relations			16		16
(MMS) of semantic systems			13		13
(MMT) of semantic transformations					
(MMI) of semantic implications					

MEMORY (cont'd)	1	2	3	4	T
(MBU) of behavioral units					
(MBC) of behavioral classes					
(MBR) of behavioral relations					
(MBS) of behavioral systems					
(MBT) of behavioral transformations					
(MBI) of behavioral implications					
EVALUATION					
(EFU) of figural units					
(EFC) of figural classes					
(EFR) of figural relations					
(EFS) of figural systems					
(EFT) of figural transformations					
(EFI) of figural implications					
(ESU) of symbolic units					
(ESC) of symbolic classes					
(ESR) of symbolic relations					
(ESS) of symbolic systems					
(EST) of symbolic transformations					
(ESI) of symbolic implications					
(EMU) of semantic units					
(EMC) of semantic classes					
(EMR) of semantic relations					
(EMS) of semantic systems					
(EMT) of semantic transformations					
(EMI) of semantic implications					

EVALUATION (cont'd)	1	2	3	4	T
(EBU) of behavioral units					
(EBC) of behavioral classes					
(EBR) of behavioral relations					
(EBS) of behavioral systems					
(EBT) of behavioral transformations					
(EBI) of behavioral implications					
CONVERGENT PRODUCTION					
(NFU) of figural units			4		4
(NFC) of figural classes					
(NFR) of figural relations			4		4
(NFS) of figural systems			3		3
(NFT) of figural transformations					
(NFI) of figural implications					
(NSU) of symbolic units					
(NSC) of symbolic classes					
(NSR) of symbolic relations					
(NSS) of symbolic systems					
(NST) of symbolic transformations					
(NSI) of symbolic implications					
(NMU) of semantic units			54		54
(NMC) of semantic classes					
(NMR) of semantic relations			3		3
(NMS) of semantic systems			1		1
(NMT) of semantic transformations					
(NMI) of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units					
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(DBU) of behavioral units					
(DBC) of behavioral classes					
(DBR) of behavioral relations					
(DBS) of behavioral systems					
(DBT) of behavioral transformations					
(DBI) of behavioral implications					
TOTAL	26	80	201		

TOTAL MATERIAL ANALYZED FOR CONVENTION 1: 19

2: 22

3: 38

4: --

APPENDIX E

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
2. One illustration, diagram, figure, table, etc. on that page
3. Every third question in tests, study sections, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA:

Loper, Ora E. Direct current fundamentals. Albany, N.Y.: Delmar Publ, 1978 356 pp.

Program: Electric Technology

DISTRIBUTION:	TOTAL: CONVENTION	1	2	3	4	T
COGNITION						
(CFU) of figural units						
(CFC) of figural classes						
(CFR) of figural relations						
(CFS) of figural systems						
(CFT) of figural transformations						
(CFI) of figural implications						
(CSU) of symbolic units		50	70	11		131
(CSC) of symbolic classes		4	6	6		16
(CSR) of symbolic relations		2	12	6		20
(CSS) of symbolic systems		1	7	4		12
(CST) of symbolic transformations						
(CSI) of symbolic implications						
(CMU) of semantic units		77	102	16		195
(CMC) of semantic classes		11				11
(CMR) of semantic relations		17		6		22
(CMS) of semantic systems		6		4		10
(CMT) of semantic transformations						
(CMI) of semantic implications						

COGNITION (cont'd)	1	2	3	4	T
(CBU) of behavioral units					
(CBC) of behavioral classes					
(CBR) of behavioral relations					
(CBS) of behavioral systems					
(CBT) of behavioral transformations					
(CBI) of behavioral implications					
MEMORY					
(MFU) of figural units					
(MFC) of figural classes					
(MFR) of figural relations					
(MFS) of figural systems					
(MFT) of figural transformations					
(MFI) of figural implications					
(MSU) of symbolic units			18		18
(MSC) of symbolic classes					
(MSR) of symbolic relations			3		3
(MSS) of symbolic systems			4		4
(MST) of symbolic transformations					
(MSI) of symbolic implications					
(MMU) of semantic units			16		16
(MMC) of semantic classes					
(MMR) of semantic relations			4		4
(MMS) of semantic systems			5		5
(MMT) of semantic transformations					
(MMI) of semantic implications					

MEMORY (cont'd)	1	2	3	4	T
(MBU) of behavioral units					
(MBC) of behavioral classes					
(MBR) of behavioral relations					
(MBS) of behavioral systems					
(MBT) of behavioral transformations					
(MBI) of behavioral implications					
EVALUATION					
(EFU) of figural units					
(EFC) of figural classes					
(EFR) of figural relations					
(EFS) of figural systems					
(EFT) of figural transformations					
(EFI) of figural implications					
(ESU) of symbolic units					
(ESC) of symbolic classes					
(ESR) of symbolic relations					
(ESS) of symbolic systems					
(EST) of symbolic transformations					
(ESI) of symbolic implications					
(EMU) of semantic units					
(EMC) of semantic classes					
(EMR) of semantic relations					
(EMS) of semantic systems					
(EMT) of semantic transformations					
(EMI) of semantic implications					

EVALUATION (cont'd)	1	2	3	4	T
(EBU) of behavioral units					
(EBC) of behavioral classes					
(EBR) of behavioral relations					
(EBS) of behavioral systems					
(EBT) of behavioral transformations					
(EBI) of behavioral implications					
CONVERGENT PRODUCTION					
(NFU) of figural units					
(NFC) of figural classes					
(NFR) of figural relations					
(NFS) of figural systems					
(NFT) of figural transformations					
(NFI) of figural implications					
(NSU) of symbolic units			16		16
(NSC) of symbolic classes			4		4
(NSR) of symbolic relations			1		1
(NSS) of symbolic systems					
(NST) of symbolic transformations					
(NSI) of symbolic implications					
(NMU) of semantic units			14		14
(NMC) of semantic classes					
(NMR) of semantic relations			6		6
(NMS) of semantic systems			8		8
(NMT) of semantic transformations					
(NMI) of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units					
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(DBU) of behavioral units					
(DBC) of behavioral classes					
(DBR) of behavioral relations					
(DBS) of behavioral systems					
(DBT) of behavioral transformations					
(DBI) of behavioral implications					
TOTAL	168	95	151		

TOTAL MATERIAL ANALYZED FOR CONVENTION 1: 110

2: 102

3: 25

4: --

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
2. One illustration, diagram, figure, table, etc. on that page
3. Every third question in tests, study questions, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA: Program: Electric Technology

National Fire Protection Association
National electrical code 1975 TOTAL: CONVENTION
Boston:National Fire Protection
Assn., 1974 616 pp.

DISTRIBUTION:

		1	2	3	4	T
	COGNITION					
(CFU)	of figural units					
(CFC)	of figural classes					
(CFR)	of figural relations					
(CFS)	of figural systems					
(CFT)	of figural transformations					
(CFI)	of figural implications					
(CSU)	of symbolic units	25	16			41
(CSC)	of symbolic classes		4			4
(CSR)	of symbolic relations		8			8
(CSS)	of symbolic systems		2			2
(CST)	of symbolic transformations					
(CSI)	of symbolic implications					
(CMU)	of semantic units	180	16			196
(CMC)	of semantic classes					
(CMR)	of semantic relations					
(CMS)	of semantic systems					
(CMT)	of semantic transformations					
(CMI)	of semantic implications					

COGNITION (cont'd)	1	2	3	4	T
(CBU) of behavioral units					
(CBC) of behavioral classes					
(CBR) of behavioral relations					
(CBS) of behavioral systems					
(CBT) of behavioral transformations					
(CBI) of behavioral implications					
MEMORY					
(MFU) of figural units					
(MFC) of figural classes					
(MFR) of figural relations					
(MFS) of figural systems					
(MFT) of figural transformations					
(MFI) of figural implications					
(MSU) of symbolic units					
(MSC) of symbolic classes					
(MSR) of symbolic relations					
(MSS) of symbolic systems					
(MST) of symbolic transformations					
(MSI) of symbolic implications					
(MMU) of semantic units					
(MMC) of semantic classes					
(MMR) of semantic relations					
(MMS) of semantic systems					
(MMT) of semantic transformations					
(MMI) of semantic implications					

MEMORY (cont'd)	1	2	3	4	T
(MBU) of behavioral units					
(MBC) of behavioral classes					
(MBR) of behavioral relations					
(MBS) of behavioral systems					
(MBT) of behavioral transformations					
(MBI) of behavioral implications					
EVALUATION					
(EFU) of figural units					
(EFC) of figural classes					
(EFR) of figural relations					
(EFS) of figural systems					
(EFT) of figural transformations					
(EFI) of figural implications					
(ESU) of symbolic units					
(ESC) of symbolic classes					
(ESR) of symbolic relations					
(ESS) of symbolic systems					
(EST) of symbolic transformations					
(ESI) of symbolic implications					
(EMU) of semantic units					
(EMC) of semantic classes					
(EMR) of semantic relations					
(EMS) of semantic systems					
(EMT) of semantic transformations					
(EMI) of semantic implications					

EVALUATION (cont'd)	1	2	3	4	T
(EBU) of behavioral units					
(EBC) of behavioral classes					
(EBR) of behavioral relations					
(EBS) of behavioral systems					
(EBT) of behavioral transformations					
(EBI) of behavioral implications					
CONVERGENT PRODUCTION					
(NFU) of figural units					
(NFC) of figural classes					
(NFR) of figural relations					
(NFS) of figural systems					
(NFT) of figural transformations					
(NFI) of figural implications					
(NSU) of symbolic units					
(NSC) of symbolic classes					
(NSR) of symbolic relations					
(NSS) of symbolic systems					
(NST) of symbolic transformations					
(NSI) of symbolic implications					
(NMU) of semantic units					
(NMC) of semantic classes					
(NMR) of semantic relations					
(NMS) of semantic systems					
(NMT) of semantic transformations					
(NMI) of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units					
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(DBU) of behavioral units					
(DBC) of behavioral classes					
(DBR) of behavioral relations					
(DBS) of behavioral systems					
(DBT) of behavioral transformations					
(DBI) of behavioral implications					
TOTA.	205	46			

TOTAL MATERIAL ANALYZED FOR CONVENTION 1: 185

2: 15

3: --

4: --

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
2. One illustration, diagram, figure, table, etc. on that page
3. Every third question in tests, study sections, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA:

Program: Medical Secretary

Bredow, M. Medical office procedures
New York:McGraw-Hill, 1973.
278 text pages; 151 practice pages

DISTRIBUTION:	TOTAL: CONVENTION	1	2	3	4	T
COGNITION						
(CFU) of figural units			12			12
(CFC) of figural classes			12			12
(CFR) of figural relations			12			12
(CFS) of figural systems			12			12
(CFT) of figural transformations						
(CFI) of figural implications						
(CSU) of symbolic units		27				27
(CSC) of symbolic classes						
(CSR) of symbolic relations						
(CSS) of symbolic systems						
(CST) of symbolic transformations						
(CSI) of symbolic implications						
(CMU) of semantic units		73				73
(CMC) of semantic classes						
(CMR) of semantic relations						
(CMS) of semantic systems						
(CMT) of semantic transformations						
(CMI) of semantic implications						

COGNITION (cont'd)	1	2	3	4	T
(CBU) of behavioral units					
(CBC) of behavioral classes					
(CBR) of behavioral relations					
(CBS) of behavioral systems					
(CBT) of behavioral transformations					
(CBI) of behavioral implications					
MEMORY					
(MFU) of figural units					
(MFC) of figural classes					
(MFR) of figural relations					
(MFS) of figural systems					
(MFT) of figural transformations					
(MFI) of figural implications					
(MSU) of symbolic units					
(MSC) of symbolic classes					
(MSR) of symbolic relations					
(MSS) of symbolic systems					
(MST) of symbolic transformations					
(MSI) of symbolic implications					
(MMU) of semantic units		22			22
(MMC) of semantic classes		22			22
(MMR) of semantic relations		22			22
(MMS) of semantic systems		22			22
(MMT) of semantic transformations					
(MMI) of semantic implications					

MEMORY (cont'd)	1	2	3	4	T
(MBU) of behavioral units					
(MBC) of behavioral classes					
(MBR) of behavioral relations					
(MBS) of behavioral systems					
(MBT) of behavioral transformations					
(MBI) of behavioral implications					
EVALUATION					
(EFU) of figural units			2		2
(EFC) of figural classes					
(EFR) of figural relations					
(EFS) of figural systems					
(EFT) of figural transformations					
(EFI) of figural implications					
(ESU) of symbolic units			2		2
(ESC) of symbolic classes					
(ESR) of symbolic relations					
(ESS) of symbolic systems					
(EST) of symbolic transformations					
(ESI) of symbolic implications					
(EMU) of semantic units					
(EMC) of semantic classes					
(EMR) of semantic relations			2		2
(EMS) of semantic systems					
(EMT) of semantic transformations					
(EMI) of semantic implications					

EVALUATION (cont'd)	1	2	3	4	T
(EBU) of behavioral units			4		4
(EBC) of behavioral classes					
(EBR) of behavioral relations					
(EBS) of behavioral systems					
(EBT) of behavioral transformations					
(EBI) of behavioral implications					
CONVERGENT PRODUCTION					
(NFU) of figural units					
(NFC) of figural classes					
(NFR) of figural relations					
(NFS) of figural systems					
(NFT) of figural transformations					
(NFI) of figural implications					
(NSU) of symbolic units			24		24
(NSC) of symbolic classes			6		6
(NSR) of symbolic relations					
(NSS) of symbolic systems			20		20
(NST) of symbolic transformations					
(NSI) of symbolic implications					
(NMU) of semantic units			8		8
(NMC) of semantic classes			13		13
(NMR) of semantic relations			6		6
(NMS) of semantic systems			20		20
(NMT) of semantic transformations			7		7
(NMI) of semantic implications			7		7

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations			7		7
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units					
(DMC) of semantic classes			7		7
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations			12		12
(DMI) of semantic implications			12		12

DIVERGENT PRODUCTION (cont'd)		1	2	3	4	T
(DBU)	of behavioral units					
(DBC)	of behavioral classes					
(DBR)	of behavioral relations					
(DBS)	of behavioral systems			5		5
(DBT)	of behavioral transformations			12		12
(DBI)	of behavioral implications					
	TOTAL	100	136	176		

TOTAL MATERIAL ANALYZED FOR CONVENTION

1: 85

2: 29

3: 71

4: one only

APPENDIX E

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
2. One illustration, diagram, figure, table, etc. on that page
3. Every third question in tests, study sections, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA:

Program: Medical Secretary

Gregg, J.R., Leslie, L.A. & Zoubek, C.E. Gregg shorthand New York:McGraw-Hill, 1971. 320 pp.

TOTAL: CONVENTION 1 2 3 4 T

DISTRIBUTION:

	COGNITION					
(CFU)	of figural units					
(CFC)	of figural classes					
(CFR)	of figural relations					
(CFS)	of figural systems					
(CFT)	of figural transformations					
(CFI)	of figural implications					
(CSU)	of symbolic units	50	45	70		165
(CSC)	of symbolic classes					
(CSR)	of symbolic relations	20	15	50		85
(CSS)	of symbolic systems					
(CST)	of symbolic transformations					
(CSI)	of symbolic implications					
(CMU)	of semantic units	45	40	9		104
(CMC)	of semantic classes					
(CMR)	of semantic relations					
(CMS)	of semantic systems					
(CMT)	of semantic transformations					
(CMI)	of semantic implications					

COGNITION (cont'd)	1	2	3	4	T
(CBU) of behavioral units					
(CBC) of behavioral classes					
(CBR) of behavioral relations					
(CBS) of behavioral systems					
(CBT) of behavioral transformations					
(CBI) of behavioral implications					
MEMORY					
(MFU) of figural units					
(MFC) of figural classes					
(MFR) of figural relations					
(MFS) of figural systems					
(MFT) of figural transformations					
(MFI) of figural implications					
(MSU) of symbolic units	45	22	70		137
(MSC) of symbolic classes					
(MSR) of symbolic relations	45				45
(MSS) of symbolic systems					
(MST) of symbolic transformations					
(MSI) of symbolic implications					
(MMU) of semantic units					
(MMC) of semantic classes					
(MMR) of semantic relations					
(MMS) of semantic systems					
(MMT) of semantic transformations					
(MMI) of semantic implications					

MEMORY (cont'd)	1	2	3	4	T
(MBU) of behavioral units					
(MBC) of behavioral classes					
(MBR) of behavioral relations					
(MBS) of behavioral systems					
(MBT) of behavioral transformations					
(MBI) of behavioral implications					
EVALUATION					
(EFU) of figural units					
(EFC) of figural classes					
(EFR) of figural relations					
(EFS) of figural systems					
(EFT) of figural transformations					
(EFI) of figural implications					
(ESU) of symbolic units					
(ESC) of symbolic classes					
(ESR) of symbolic relations					
(ESS) of symbolic systems					
(EST) of symbolic transformations					
(ESI) of symbolic implications					
(EMU) of semantic units					
(EMC) of semantic classes					
(EMR) of semantic relations					
(EMS) of semantic systems					
(EMT) of semantic transformations					
(EMI) of semantic implications					

EVALUATION (cont'd)	1	2	3	4	T
(EBU) of behavioral units					
(EBC) of behavioral classes					
(EBR) of behavioral relations					
(EBS) of behavioral systems					
(EBT) of behavioral transformations					
(EBI) of behavioral implications					
CONVERGENT PRODUCTION					
(NFU) of figural units					
(NFC) of figural classes					
(NFR) of figural relations					
(NFS) of figural systems					
(NFT) of figural transformations					
(NFI) of figural implications					
(NSU) of symbolic units			70		70
(NSC) of symbolic classes					
(NSR) of symbolic relations			50		50
(NSS) of symbolic systems					
(NST) of symbolic transformations					
(NSI) of symbolic implications					
(NMU) of semantic units					
(NMC) of semantic classes					
(NMR) of semantic relations					
(NMS) of semantic systems					
(NMT) of semantic transformations					
(NMI) of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units					
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(DBU) of behavioral units					
(DBC) of behavioral classes					
(DBR) of behavioral relations					
(DBS) of behavioral systems					
(DBT) of behavioral transformations					
(DBI) of behavioral implications					
TOTAL	205	122	319		

TOTAL MATERIAL ANALYZED FOR CONVENTION

1: 120
2: 45
3: 110
4: ---

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
2. One illustration, diagram, figure, table, etc. on that page
3. Every third question in tests, study sections, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA:

Program: Medical Secretary

Lessenberry, D.D. & Others (2nd Ed.)
Century typewriting. Cincinnati: South-Western Publishing Co. 1977
460 pp.

DISTRIBUTION:

	TOTAL: CONVENTION	1	2	3	4	T
	COGNITION					
(CFU)	of figural units					
(CFC)	of figural classes					
(CFR)	of figural relations					
(CFS)	of figural systems					
(CFT)	of figural transformations					
(CFI)	of figural implications					
(CSU)	of symbolic units		114	111		225
(CSC)	of symbolic classes					
(CSR)	of symbolic relations					
(CSS)	of symbolic systems					
(CST)	of symbolic transformations					
(CSI)	of symbolic implications					
(CMU)	of semantic units	112		111		223
(CMC)	of semantic classes					
(CMR)	of semantic relations					
(CMS)	of semantic systems					
(CMT)	of semantic transformations					
(CMI)	of semantic implications					

COGNITION (cont'd)	1	2	3	4	T
(CBU) of behavioral units					
(CBC) of behavioral classes					
(CBR) of behavioral relations					
(CBS) of behavioral systems					
(CBT) of behavioral transformations					
(CBI) of behavioral implications					
MEMORY					
(MFU) of figural units					
(MFC) of figural classes					
(MFR) of figural relations					
(MFS) of figural systems					
(MFT) of figural transformations					
(MFI) of figural implications					
(MSU) of symbolic units					
(MSC) of symbolic classes					
(MSR) of symbolic relations					
(MSS) of symbolic systems					
(MST) of symbolic transformations					
(MSI) of symbolic implications					
(MMU) of semantic units					
(MMC) of semantic classes					
(MMR) of semantic relations					
(MMS) of semantic systems					
(MMT) of semantic transformations					
(MMI) of semantic implications					

MEMORY (cont'd)	1	2	3	4	T
(MBU) of behavioral units					
(MBC) of behavioral classes					
(MBR) of behavioral relations					
(MBS) of behavioral systems					
(MBT) of behavioral transformations					
(MBI) of behavioral implications					
EVALUATION					
(EFU) of figural units					
(EFC) of figural classes					
(EFR) of figural relations					
(EFS) of figural systems					
(EFT) of figural transformations					
(EFI) of figural implications					
(ESU) of symbolic units					
(ESC) of symbolic classes					
(ESR) of symbolic relations					
(ESS) of symbolic systems					
(EST) of symbolic transformations					
(ESI) of symbolic implications					
(EMU) of semantic units					
(EMC) of semantic classes					
(EMR) of semantic relations					
(EMS) of semantic systems					
(EMT) of semantic transformations					
(EMI) of semantic implications					

EVALUATION (cont'd)	1	2	3	4	T
(EBU) of behavioral units					
(EBC) of behavioral classes					
(EBR) of behavioral relations					
(EBS) of behavioral systems					
(EBT) of behavioral transformations					
(EBI) of behavioral implications					
CONVERGENT PRODUCTION					
(NFU) of figural units			111		111
(NFC) of figural classes					
(NFR) of figural relations					
(NFS) of figural systems					
(NFT) of figural transformations					
(NFI) of figural implications					
(NSU) of symbolic units			111		111
(NSC) of symbolic classes					
(NSR) of symbolic relations					
(NSS) of symbolic systems					
(NST) of symbolic transformations					
(NSI) of symbolic implications					
(NMU) of semantic units					
(NMC) of semantic classes					
(NMR) of semantic relations					
(NMS) of semantic systems					
(NMT) of semantic transformations					
(NMI) of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units			16		16
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)		1	2	3	4	T
(DBU)	of behavioral units					
(DBC)	of behavioral classes					
(DBR)	of behavioral relations					
(DBS)	of behavioral systems					
(DBT)	of behavioral transformations					
(DBI)	of behavioral implications					
	TOTAL	112	114	460		

TOTAL MATERIAL ANALYZED FOR CONVENTION

1: 140

2: 140

3: 118

4: N/A

DISTRIBUTION OF SAMPLE ANALYSIS

Convention:

1. One paragraph (successive) on every third page
2. One illustration, diagram, figure, table, etc. on that page
3. Every third question in tests, study sections, etc.
4. Every third supplementary material, e.g. suggestions for further study, etc.

BIBLIOGRAPHIC DATA:

Program: Medical Secretary

Stewart, J.R. & Kahn, G. Gregg quick filing practice (2nd ed.) New York:McGraw-Hill, 1979 46 instruction pp., 34 test pp., 96 practice

DISTRIBUTION:

	CONVENTION	1	2	3	4	T
	COGNITION					
(CFU)	of figural units		22			22
(CFC)	of figural classes		6			6
(CFR)	of figural relations		10			10
(CFS)	of figural systems		4			4
(CFT)	of figural transformations					
(CFI)	of figural implications					
(CSU)	of symbolic units		5	27		33
(CSC)	of symbolic classes			11		11
(CSR)	of symbolic relations			11		11
(CSS)	of symbolic systems					
(CST)	of symbolic transformations					
(CSI)	of symbolic implications					
(CMU)	of semantic units	15		8		23
(CMC)	of semantic classes	15		40		55
(CMR)	of semantic relations	15		8		23
(CMS)	of semantic systems					
(CMT)	of semantic transformations					
(CMI)	of semantic implications					

COGNITION (cont'd)	1	2	3	4	T
(CBU) of behavioral units					
(CBC) of behavioral classes					
(CBR) of behavioral relations					
(CBS) of behavioral systems					
(CBT) of behavioral transformations					
(CBI) of behavioral implications					
MEMORY					
(MFU) of figural units					
(MFC) of figural classes					
(MFR) of figural relations					
(MFS) of figural systems					
(MFT) of figural transformations					
(MFI) of figural implications					
(MSU) of symbolic units			8		8
(MSC) of symbolic classes			8		8
(MSR) of symbolic relations			5		5
(MSS) of symbolic systems					
(MST) of symbolic transformations					
(MSI) of symbolic implications					
(MMU) of semantic units					
(MMC) of semantic classes					
(MMR) of semantic relations					
(MMS) of semantic systems					
(MMT) of semantic transformations					
(MMI) of semantic implications					

MEMORY (cont'd)	1	2	3	4	T
(MBU) of behavioral units					
(MBC) of behavioral classes					
(MBR) of behavioral relations					
(MBS) of behavioral systems					
(MBT) of behavioral transformations					
(MBI) of behavioral implications					
EVALUATION					
(EFU) of figural units					
(EFC) of figural classes					
(EFR) of figural relations					
(EFS) of figural systems					
(EFT) of figural transformations					
(EFI) of figural implications					
(ESU) of symbolic units					
(ESC) of symbolic classes	16		21		37
(ESR) of symbolic relations	16		16		32
(ESS) of symbolic systems	16		16		32
(EST) of symbolic transformations					
(ESI) of symbolic implications					
(EMU) of semantic units					
(EMC) of semantic classes	16		21		37
(EMR) of semantic relations	16		21		37
(EMS) of semantic systems	16		21		37
(EMT) of semantic transformations					
(EMI) of semantic implications					

EVALUATION (cont'd)		1	2	3	4	T
(EBU)	of behavioral units					
(EBC)	of behavioral classes					
(EBR)	of behavioral relations					
(EBS)	of behavioral systems					
(EBT)	of behavioral transformations					
(EBI)	of behavioral implications					
	CONVERGENT PRODUCTION					
(NFU)	of figural units		22			22
(NFC)	of figural classes		6			6
(NFR)	of figural relations		10			10
(NFS)	of figural systems		4			4
(NFT)	of figural transformations					
(NFI)	of figural implications					
(NSU)	of symbolic units					
(NSC)	of symbolic classes					
(NSR)	of symbolic relations			16		16
(NSS)	of symbolic systems					
(NST)	of symbolic transformations					
(NSI)	of symbolic implications					
(NMU)	of semantic units					
(NMC)	of semantic classes					
(NMR)	of semantic relations			16		16
(NMS)	of semantic systems					
(NMT)	of semantic transformations					
(NMI)	of semantic implications					

CONVERGENT PRODUCTION (cont'd)	1	2	3	4	T
(NBU) of behavioral units					
(NBC) of behavioral classes					
(NBR) of behavioral relations					
(NBS) of behavioral systems					
(NBT) of behavioral transformations					
(NBI) of behavioral implications					
DIVERGENT PRODUCTION					
(DFU) of figural units					
(DFC) of figural classes					
(DFR) of figural relations					
(DFS) of figural systems					
(DFT) of figural transformations					
(DFI) of figural implications					
(DSU) of symbolic units					
(DSC) of symbolic classes					
(DSR) of symbolic relations					
(DSS) of symbolic systems					
(DST) of symbolic transformations					
(DSI) of symbolic implications					
(DMU) of semantic units					
(DMC) of semantic classes					
(DMR) of semantic relations					
(DMS) of semantic systems					
(DMT) of semantic transformations					
(DMI) of semantic implications					

DIVERGENT PRODUCTION (cont'd)		1	2	3	4	T
(DBU)	of behavioral units					
(DBC)	of behavioral classes					
(DBR)	of behavioral relations					
(DBS)	of behavioral systems					
(DBT)	of behavioral transformations					
(DBI)	of behavioral implications					
	TOTAL	141	89	274		

TOTAL MATERIAL ANALYZED FOR CONVENTION 1: 58
2: 56
3: 32
4: N/A

E. BIBLIOGRAPHY

Works Cited

Adams, C.F., & Mecca, T.V. Occupational education: Some possible futures. World Future Society Bulletin, 1980, 14, 11-18.

Feldhusen, J.F., & Treffinger, D. Teaching creative thinking and problem solving. Dubuque, Ia.: Kendall/Hunt, 1977.

Getzels, J.W., & Jackson, P. Creativity and intelligence. New York: Wiley, 1962.

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Works Consulted

In addition to the works cited in the report, more than 30 additional sources were consulted, including material retrieved from the New Jersey Occupational Research and Development Resource Center (Edison, New Jersey) and a search made for this report by the Council for Exceptional Children/ ERIC Clearinghouse on Handicapped and Gifted Children (Reston, Va.). Publication data for these sources consulted is available.